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ARE TRACK ATHLETICS HARMFUL?

Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

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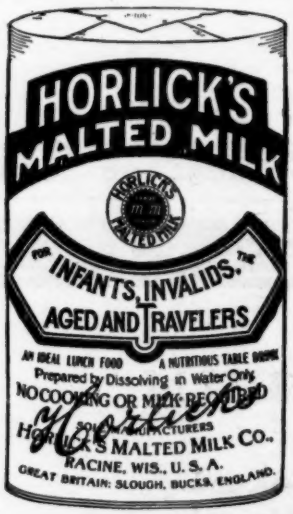

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Are Track Athletics Harmful to Young Men?

ARE TRACK ATHLETICS HARMFUL TO YOUNG MEN?

JOHN W. BOWLER, M. D.,

PROFESSOR OF PHYSICAL EDUCATION AND HYGIENE AND DIRECTOR OF THE GYMNASIUM, DARTMOUTH COLLEGE,

Hanover, N. H.

At the outset I should like to express my strongly held opinion that track athletics represent the cleanest form of athletic contests we have in American colleges to-day. The coach or trainer is not permitted to be seated on the field where he can direct the athlete, but his work ends (so far as concerns the day's contests) when his charges enter the enclosure where the contests are to be held. Unlike other team sports, in which success depends upon the co-operation of all members of the team, but where, at time, individuals can and do let up in their strenuous efforts in order to conserve their strength (notably in football), track athletics allows no "soldering" and is a game in which a man stands or falls by his own efforts.

That team games are most admirable in the splendid qualities which they develop in the young men and which are so essential in the great game of life is undisputed. These qualities are courage, self-denial, due subordination, respect for authority, and co-operation, which will aid any young man in playing a successful part in the business, professional, social, and humanitarian activities in the community of which he may be a member. Track athletics develop all these qualities to a very high degree, with the exception of co-operation, which is not developed to such an extent as in organized team sports. For example, in football, a long run by a back is usually made possible only by the unseen skillful work of the line men and the other backs, each man doing a certain thing on that play, which might have resulted in a loss rather than a gain if only one man failed to get the signal or fulfill his duty. On the other hand, track athletics develops perseverence and the habit of depending upon one's own skill and strength only. This is a most admirable trait to be acquired, for without this an individual lacks initiative and self-confidence.

Candor compels the admission, however, that there are some dangers to guard against in track athletics, particularly among the members of the cross-country squad, which contains, as a rule, the middle distance and distance runners of the track team, from whom a track coach oftentimes develops some of the best distance runners. However, the men who finally make the cross-country team usually represent the survival of the fittest. During the process of development, a large number of men may be trying for the team, many of them poorly developed and many too young to stand the severe work and still more severe strain put upon their hearts and other organs during a race or series of races held in order to enable the coach to find the best men for the team. Now, taking a jaunt across country for a few miles for physical training and the exhilarating effect that follows all forms of rational physical recreation, and with the sole purpose of developing health and endurance, is quite different from the methods we often pursue in the development of cross-country teams and distance runners for our school and college track teams. With proper medical supervision we can safeguard those who take part in cross-country and distance running against the greater danger, namely, organic heart lesions. I do not wish to imply that this is a frequent occurrence, but it is too serious to permit happening at all. With careful, intelligent oversight, considering first the best interest of the individual, taking absolutely no chances with his health during the periods devoted to the preparation for the contests, grading the work sanely, and having the candidates frequently reexamined, this danger can be entirely removed. Functional hypertrophy of the heart is occasionally found so exaggerated that it would be unwise to permit the individual thus afflicted to continue training for athletic contests. It would also be unwise, in such a case, not to use modified exercises, after a proper period of rest from all athletic activities, as a therapeutic agent.

"Sand," at time, is displayed at the cost of a sound body and perhaps a period of invalidism. Pride and the desire to display "sand" will keep a college or school boy running hard, straining his heart and lungs, to at least lessen the distance between himself and the leaders in the race. Every member of a cross-country team has it constantly drilled into him that he must not only finish the race but stay up as close to the front as possible, for no matter how well up to the front are the first four men of his team, a bad fifth man may mean defeat for the team. (The first five men score

for the team out of seven starters allowed to represent any one school or college). Therefore to finish in as good a position as possible, a boy will struggle when he has been exhausted for some time. Professionals rarely compete in cross-country races. In the case of the professional runner there is no sentiment, and if he finds he is not running in good form he will "let down" in his effort. He is, in this respect at least, not a slave to the opinions of others. He does not hesitate when it is a matter of his health on the one hand and a display of "sand" on the other.

Aside from the lower limbs, and a good lung capacity, the musculature of the distance runner is, as a rule, sadly undeveloped, the natural result of expenditure of physical energy in one direction only. This is particularly noticeable in the shoulder girdles and arms, which show early evidence of fatigue. Fatigue is the result of using up the stored energy in the muscles, but more particularly it results from the accumulation in the active muscles and to a lesser degree in the circulation as a whole, of waste products, which diminish efficiency, some even having the nature of toxins. Development that is uneven to a marked extent in an athlete, as for example in a runner whose leg and thigh muscles alone are developed, is a serious handicap. Not only are other muscles in the body capable of storing nourishment that can be transferred upon demand, but the undeveloped muscles will frequently show fatigue before the leg muscles give out; failing because of the accumulation of fatigue products in the circulation as a whole, and because they have not been trained to withstand the accumulation of the fatigue products. As a result a distance runner oftentimes will show fatigue first in the change of position and action of his arms and shoulders before a noticeable change is made in his stride.

At times it becomes the duty of the writer to advise an athlete, usually a distance runner, because of slow and weak heart action, to give up competitive athletics at least for a time. At times the young athlete is so obsessed with the idea of securing his school or college letter that all thought of his future health, happiness and efficiency is absolutely in abeyance, and in a case of this kind positive measures must be taken to safeguard the individual against himself.

Among athletes disturbances in functioning of the intestinal tract occur more frequently among those participating in cross-country or distance running. The foundation for these disturbances is usually laid by an act of indiscretion, on the part of the runner himself, or of an inexperienced trainer who sends his squad over a long, hard cross-country course in a trial run, the semi-fit and fit striving against one another in a test of speed and endurance for supremacy.

Fallen arches or flat-foot is occasionally met with. This is usually due to fatigue of the muscles which results in throwing the weight of the body on the supporting ligaments, which by themselves cannot retain the normal arch of the foot under the abnormal conditions of a race.

Sprinters and jumpers, as well as participants in other branches of track and field sports occasionally strain and at times rupture a ligament or even the belly of the muscle. These are often due to accidents, but usually to avoidable ones. If sufficient care is taken in the "warming up," taking preliminary light exercise to properly adjust the heart action and the skeleton muscles as well, these accidents will not occur.

I have based this discussion concerning track athletics, on cross-country and distance running, because I believe therein lies the greatest danger.

ARE TRACK ATHLETICS HARMFUL TO YOUNG MEN?

GEORGE L. MEYLAN, A. M., M. D.
PROFESSOR OF PHYSICAL EDUCATION IN COLUMBIA UNIVERSITY.
New York.

The tremendous increase in competitive athletics since the beginning of the twentieth century has been accompanied by a growing public interest in the question of the effects of athletic competition on the individual. This question promises to remain a live and perennial subject of controversy because it involves many variable factors which are not measurable; therefore it affords opportunities for everlasting discussion without the possibility of reaching final and decisive conclusions.

There are three definite charges frequently made against competitive athletics: First; some persons admit that gymnastic and athletic exercises are beneficial providing all competition is eliminated. The following quotation from an editorial in the *Journal* of the American Medical Association illustrates this contention: "If the element of competition could be eliminated from our athletic games, if the desire to win could be superseded by the joy of play and the pride in grace of movement and skill in performance, a great step in advance would have been taken. . . . Graceful execution of movement and mild rivalry for perfection can be associated with forms of athletics of increasing difficulty in performance."

Can you imagine a red-blooded, manly boy, or a college man, striving to swing his bat gracefully, assuming an esthetic attitude when trying to field a hot grounder, or acting under the impulse of "mild rivalry for perfection" when sliding for the home plate? The element of competition, or the desire to win, is the very essence of all athletics and games. This is true not only with boys and young men, but also with girls and adults. Some time ago, the students in a women's college failed to take any interest in basketball; the lady director when conducting the game would blow a whistle every few seconds to criticize every throw and every catch because the movements and attitudes of the girls were not sufficiently graceful. As soon as the girls were given a chance to "play the game," they quickly developed great enthusiasm for basketball. The element of competition had been lacking when basketball was made merely an esthetic exercise, but when competition was restored, the game was changed from a bore to a fascinating exercise.

Second: Some physicians condemn athletic training and competition because it produces cardiac hypertrophy. In considering this subject, we must not lose sight of the fact that moderate hypertrophy of the heart muscle is the normal, physiological result of exercise, and that moderate hypertrophy is a desirable factor in normal physical development. There appears to be much confusion in the discussion of this subject between the physiologic hypertrophy of the normal, healthy athlete, and the pathologic hypertrophy which is present in certain cardiac diseases. There is no evidence that athletic competition ever produces pathologic or injurious hypertrophy. The latest authoritative published study on this subject was that made on Harvard oarsmen in 1915; it showed that men who had trained for rowing and competed in four-mile races from one to ten years were all in splendid condition, and there was not a single case of pathologic cardiac hypertrophy.

Third: Some physicians and laymen claim that many athletes die prematurely because athletic competition has produced permanent organic injury. Individual cases of athletes who die prematurely are cited to prove

the contention. In all these cases the assumption is made that athletic competition was the chief cause of death. I have investigated a number of these cases but failed to discover one in which the attending physician believed that participation in athletics had been a factor in causing the patient's death. Several studies of large numbers of athletes have been made to determine their longevity as compared to other men (Morgan's study of Cambridge and Oxford oarsmen—Anderson's study of "Y" men at Yale—and Meylan's study of Harvard oarsmen) and in every instance the results have shown that athletes live longer than the accepted risks of life insurance companies. It would seem that until some evidence is produced to show that athletic competition does injure health and shorten life, we must accept the facts at hand which prove that athletics are beneficial and not injurious.

The forms of athletics most frequently attacked are rowing, football, and long distance running. Track athletics include the sprint races—those under a quarter mile; the hurdles—usually 120 and 220 yards; the middle distance races—from a quarter mile to one mile; and the long distance races—from two miles to the marathon (about 26 miles). The middle and long distance races are considered injurious by some critics because the competitors often exert themselves to the point of complete exhaustion at the finish. I have attended hundreds of races, including a number of marathons, and examined many competitors before and after the races. Among hundreds of cases of complete exhaustion and collapse that I witnessed, the most serious was that of a young man, nineteen years old, who ran a two mile race on a cold, windy day, late in November. The only training this athlete had done for the race was to run one mile the day before. He collapsed twenty yards from the finish and remained unconscious for about five minutes; a physical examination revealed an acute cardiac dilatation, murmurs, and extreme weakness. Three days complete rest in bed and four months of rest from athletic work resulted in complete recovery. This athlete resumed training in April and won several one and two mile races in May, six months after the collapse. During the following two years he competed on a championship basketball team in the winter and won a number of one and two mile races in the spring. Two and a half years after the collapse, this athlete won a place in a long distance foot race at the Olympic games in London. I have examined this young man many times while he was in competition and after he gave up competitive athletics; he is now (11 years after the collapse) in excellent health, and there is no evidence that he suffered any permanent injury from his strenuous athletic competition.

I am firmly convinced that rational participation in athletics does not injure health or shorten life; the factors which have contributed to the development of this conviction are:

1. Twenty-eight years experience as competitor, coach, official, and medical examiner in track and other forms of athletics.

2. Acquaintance with a large number of medical men who are actively engaged in the examination of athletics and the supervision of athletics; each and every one believes, as I do, that rational athletics are beneficial to health and do not shorten life.

3. Careful study of the "effects of athletics on the individual" and of the literature on the subject has failed to discover any evidence that rational athletics injures health and shortens life.

My firm conviction that participation in *rational athletics* is not injurious does not blind me to the fact that all athletics are not rational. There are evils and abuses in athletics. I realize full well the dangers of competition in middle and long distance races by adolescent boys and untrained athletes, the dangers of overtraining and too frequent competitions, and the dangers of allowing boys and young men to engage in athletics without careful medical examination and supervision. But, it seems to me that the important question concerning the future of athletics in this country is not to continue the discussion of "the effects of athletics"; we have enough evidence that athletics are beneficial and no evidence to the contrary. The really important problem is to devise ways and means of extending and developing athletic equipment and instruction until every boy and girl shall receive the physical, social, and moral benefits which inevitably result from rational athletics.

University Gymnasium.

ARE TRACK ATHLETICS HARMFUL TO YOUNG MEN?

D. A. SARGENT, M. D.
PRESIDENT OF THE SARGENT SCHOOL FOR PHYSICAL EDUCATION,
Cambridge, Mass.

In my opinion, the harm which results from track athletics proceeds from the fact that they are carried to excess. This excess may be termed "individual," or "team," and either form has as its cause lack of proper academic or medical supervision and faulty methods of training and coaching.

Individual excess,—for the most part pathological in results,—is, perhaps, the main objection to be considered. Team excess is mainly psychological, and involves questions of moral, significance, fair play, loyalty, self-sacrifice, control of athletics, and finances.

As one writer phrases it: "The evils of athletics are not inherent, but are the results of a bad pedagogy, a worse social psychology, and moral cowardice on the part of those responsible for their administration and control."

Individual excess occurs in two ways:—from overexertion on the part of an athlete judged fit to undertake training for track events, and also from participation in such events by youths not able to stand the strain incident to competition and rivalry.

Added to the physical demands of track work, there is a severe strain which increases the nervous output and consumes the vital energies. The untimely death, within recent years, of three ex-football captains might point to this double expenditure of strength as a main cause.

The findings of life insurance companies in regard to the prevalence of heart disease and other organic disturbances among men who "went in" for athletics heavily during their college careers, aroused considerable discussion, and exposed the most serious after effects of severe athletic training. To prevent these, a more strict and expert medical supervision of athletes was required. More frequent and minute examinations now enable the physician to forestall overwork and staleness, cardiac hypertrophy (as carried beyond physiologic limits), renal disturbances, nutritional errors, etc.

But in order to obtain these beneficial results, there must be a closer connection between the work of the trainers and coaches, the physician, and the athlete himself. When this is secured, together with an intelligent administratve oversight, academic or otherwise, a minimum of danger results from track athletics.

8 Everett Street.

ARE TRACK ATHLETICS HARMFUL TO YOUNG MEN?

ALBERT H. SHARPE, M. D.
ATHLETIC COACH AT CORNELL UNIVERSITY.
Ithaca, N. Y.

They are certainly not. On the other hand they are decidedly beneficial.

I am now talking about track athletics as indulged in at Cornell University, where the students are first required to undergo a thorough physical and medical examination before they are allowed to compete for a place upon any team and after which, in track athletics, they work under the trained eye of Mr. John F. Moakley. His work is so well known that the reader recognizes him as the head of his department in this country. When in all his experience he has had only one man suffer from competition his testimony ought to be of some value in answering the question under discussion. This case was one in which a boy entered a novice competition without complying with the rules governing such competition. He entered without having submitted himself for a medical examination and after his collapse it was found he had heart trouble. The fact that he was in college without knowing he had such a condition is one that parents and educators would do well to ponder over.

Several instances of recovery from serious illnesses in members of the Cornell track teams have been ascribed by the attending physicians to the strong heart action maintained throughout the course of the disease. These physicians had no knowledge of the athletic experience of their patients.

It is true that all kinds of trouble may be incurred by immature boys working by themselves or under incompetent advisers, but, to the boy who has attained his proper development, according to his age, and such can be told by experienced men, the work will benefit him mentally, morally and physically.

The only rational criticism that can be directed against collegiate athletics is that some athletes are forced into occupations in after life in which the environment is such that it is not conducive to a continuation of their usual exercise and they do not substitute some other form for it. It is easy enough to say that when a collegiate athletic star dies his death was caused by over exertion but it is much more difficult to prove it.

A more reasonable explanation, to my mind, is that the men who have done a lot of athletic work acquire the habit of "never giving up" and so when they finally do succumb to any infection they are in a far more serious condition than the average person who not only succumbs quicker but "gives in" and therefore gets proper treatment earlier than the more virile type. In other words, the stronger the man the more careless he is apt to be about what he considers minor ailments.

My advice to parents would, therefore, be to put their children under physical and medical experts as soon as they are able to do so and let them judge as to what line of exercise would be best for them. My advice to the athletes leaving college would be to join some club or Y. M. C. A. where they can, under trained supervision, give their bodies a fair show. Sudden shifts are not good for locomotives, automobiles or the human engine.

My answer to the question, "Are Track Athletics Harmful to Young Men?" is, not to young men at Cornell or at any other place where similar conditions prevail.

ARE TRACK ATHLETICS HARMFUL TO YOUNG MEN?

C. WARD CRAMPTON, M. D.
DIRECTOR OF PHYSICAL TRAINING, BOARD OF EDUCATION OF THE CITY OF NEW YORK; SECRETARY PUBLIC SCHOOLS ATHLETIC LEAGUE.
New York.

Athletics were introduced into the schools by the boys and young men themselves. Throughout the country there is a disposition on the part of educational authorities to use them for educational and hygienic purposes. This involves first, control and administration. As a rule, this is limited to the prevention of dishonesty in the handling of funds, and more lately the prevention of physical harm by regulation of schedules, and by medical examination. In better organized colleges and high schools, athletics are under the direct charge of the Department of Physical Education, and form a part of its program. An endeavor is made to limit participation on the health basis and to stimulate the use of athletics by all the pupils for physical training purposes; i. e., motor-education and the development of health.

Under the complete charge of a competent Director of Physical Education, athletics may be conducted so as to satisfy the competitive spirit of the student, and in addition to serve the ends of physical education. This involves careful physical examination and medical certification, the limiting of schedules, the control of training, constant medical supervision and the limitation of the kind of athletics used.

In our New York public and high schools, we divide the boys as to weight. This parallels physiological development and athletic ability very nearly.

The longest run that any boy in games conducted under Public School Athletic League sanction can make in the elementary schools is as follows: 880 yd. relay, 4 boy team, each boy to run 220 yards. Heats are so arranged that the boys run in one heat and a final heat. No semi-finals are allowed. In the high schools, 2½ mile cross-country run, boys over 16 years only. In elementary events no boy may enter two events and none may enter any competition without a physician's certificate. I wish to go on record as stating that under these conditions during the last ten years, no boy has been injured by any athletic competition of any kind in the City of New York, and one hundred and eighty school district and championship school meets were held last year.

If athletics are left to the students there is a great educational and hygienic waste, and actual physical harm will undoubtedly result.

157 East 67th Street.

ARE TRACK ATHLETICS HARMFUL TO YOUNG MEN?

W. A. LAMBETH, M. D., Ph. D.,
DIRECTOR OF THE DEPARTMENT OF PHYSICAL EDUCATION IN THE UNIVERSITY OF VIRGINIA.
Charlottesville, Va.

We have about ninety men in track work here and in only one instance during twenty years have we found a heart which was injured by our training in this case (a half mile runner) we later found that he had suffered some inconvenience from bad circulation before coming to college. To be sure men can overdo their training and produce serious and perhaps permanent injury but under modern supervision there is not much more danger from training than from going to church or digging potatoes. On the contrary, we find feeble bodied men making for themselves a constitution fitting for some distance in life.

FURTHER STUDIES IN THE LONGEVITY OF YALE ATHLETES.

WILLIAM G. ANDERSON, M. D., Dr. P. H.
DIRECTOR AND PROFESSOR, YALE UNIVERSITY GYMNASIUM,
New Haven, Conn.

To one who has followed at all closely the proceedings of the "Athletic Doctors" now making splendid efforts to purify collegiate sports it must be apparent that "fair-play," "strict amateurism," and "clean sport" have had the most important places on the programs, and have held the attention of those who have close at heart the bettering of athletic conditions in our higher seats of learning. It must also be obvious that the health of the men, the competitors themselves has not received the serious consideration it demands.

No doubt that in the near future the physical welfare of the athletes will be more thoughtfully discussed.

The opinion prevails and recent articles in the medical and lay magazines have intensified the belief that athletes are now being pushed beyond the threshold of safety, that "winning points" is of more importance than sport for sport's sake.

An impressive method to adopt in throwing some light on the mooted question is to ascertain, if possible, whether the death rate among athletes is increasing to an alarming extent or is as serious as we are lead to believe.

Very important data has been collected for Yale University by a trained and careful statistican, Mr. George Eldred of Schenectady, N. Y., who for several years devoted all his time to a study of such subjects.

He secured from Dr. Anson Phelps Stokes, the Secretary of the University, and from the files of the college publications, obituary reports which enabled us to deduct information which if not convincing is at least suggestive.

In order that the reader may be better informed regarding a report which I made in the MEDICAL TIMES in February, 1912, where the subject "Does the College Athlete Die Young?" was discussed. I take the liberty of referring to a portion of that study.

A condensed table showing the number of deaths (58) among the Yale athletes who won the "Y" or its equivalent (808) with a distribution of these deaths among the football men, crew, etc. The period covered is fifty years, from 1855 to 1905, with the expected deaths and the ratio of actual to expected deaths based upon the tables prepared by insurance companies.

	Y. Men.	Deaths.	Expected Deaths by Actuarial Society's Select Table.	Ratio of Actual to Expected Deaths by Actuarial Society's Select Table.	Expected Deaths by American Table.	Ratio of Actual to Expected Deaths by American Table.	Earliest Year of Data.
Crew	171	18	40.2	45%	44.0	41%	1855
Football ...	213	16	27.7	58%	30.9	52%	1872
Track	276	13	21.1	62%	24.8	52%	1868
Baseball ...	148	11	23.6	47%	26.2	42%	1865
Total	808	58	112.6	52%	125.9	46%	....

Yale Athletes.

Cause of Death of 58 Men.

Consumption	12
Pneumonia	6
Typhoid	5
Typhoid Pneumonia	2
Drowned	4
Heart Failure	4
Unknown	5

Among the remaining twenty we find one death each from the long list of such causes.

Low Average in Heart Failure Deaths.

Deaths from heart disease in the Yale list of 58 men were four at the ages of 35, 57, 68 and 70. The average is very low. Pneumonia carried off 6, typhoid 5 and typhoid pneumonia 2. Those who wish to push their argument that high athletics are bad for the lungs and heart might find some ground for that argument in the fact that 24 of the 58 deaths were caused by lung trouble of various kinds, and heart failure. The table of deaths further shows that 9 of the 58 athletes met violent deaths, of which 2 were suicides.

After an examination of all material collected I present among other conclusions:

The Yale athlete does not die young, nor is heart disease a leading cause of death.

Lung trouble is the cause of the greatest number of deaths, but the percentage of men dying from these causes is not greater than the expected deaths among non-athletes from similar causes.

A comparison of the causes of death among the athletes and those insured in the Mutual below 45 years does not develop any irregularities in the distribution of deaths.

The proportion of deaths among the athletes from tuberculosis was 22 per cent.; among the Mutual's insured below 45 years was 45 per cent.

Neither the paper of Gaines and Hunter nor my own show that the athletes were long lived because they were athletes, but because, perhaps, they were selected men from applicants who were above the average; their longevity may have been due to training or it may not. To get a better test we should secure records of men of equal physical ability who did not take part in athletics, but this is impossible.

Had these selected men been injured while in athletics we might have proved something against it, but it does not follow that competitive sports were the cause of longevity; they may have actually harmed the men.

My conclusions showed that the athlete is not short lived, but do not state that he owed his longevity to athletics.

The report of 1912 showed the greatest number of deaths among the crew men, but we must bear in mind that their training began in 1885.

The men with the crews work harder and longer than other athletes. They begin their activities at the opening of the college year and with a short rest after the fall regatta keep them up until the middle of the following June.

It is my intention to make a brief study of the longevity of crew men only, reserving the examination of the rest of the data for a latter period.

Since publishing the report in 1912, Mr. Eldred has been able to secure more complete returns for the first fifty years; so we find that instead of 171 men there should be 241, and the death rate changes from 18 to 27. Since 1904, 97 crew men have won their "Y's" and the number of deaths is 31. In other words, during the first fifty years of the sport at Yale there were .54 deaths per year out of 241 men, and in the decade from 1904 to 1915 there were 3.1 deaths per year; or to put this differently, in the half century preceding 1904 there was one death every two years, in the decade following there were three deaths each year. Before deducing any alarming conclusions, let us further examine the figures, causes of death, and as nearly as possible reach a judicial opinion.

From 1852 to 1915, 338 crew men won their "Y's", of which number 277 took part in rowing only, 52 won the letter in two sports, 8 in three events, and among all the Yale men only one has ever been awarded the insignia in four major sports. The year of death, age and cause of death among the 52 men is here given.

Died.	*Age.*	*Cause of death.*
1911	31	Diabetes
1906	50	Pneumonia
1909	26	Operation
1885	33	Suicide
1893	29	Typhoid

Among the 8 who won their "Y's" in three sports we find 2 deaths:

Died.	*Age.*	*Cause of death.*
1911	56	Paralysis
1878	23	Drowned

The man who won the letter in four sports is living and in apparently good health.

For the sake of easier comparison we will eliminate these 61 men, and study the longevity reports of the 58 deaths among the remaining 277 oarsmen.

There were 15 cases of death by heart disease; 4 each of tuberculosis, pneumonia, and drowning; 3 each of typhoid, killed, accidents, and kidney disease; 2 each of paralysis, old age, pulmonary troubles; and 1 each of paresis, arteriosclerosis, apoplexy, suicide, liver trouble, operation, brain abscess and blood clot. In 5 cases the cause of death was unknown. The average age at death was 52.3 years. Among these 58 men were 6 coxswains who never rowed, eleven met death by violence, and 5 died from unknown causes. Heart disease claimed the greatest number, the deaths occurring at the ages of 47, 48, 54, 58, 60, 61, 61, 64, 67, 67, 68, 69, 69, 74, 76. The average is 62.1 years.

A comparison of deaths during the first fifty, and the second ten years follows:

FIRST FIFTY YEARS.	SECOND TEN YEARS.
Under 20 years—	20 to 30 years—
19 drowned	23 drowned
20 to 30 years—	24 typhoid
23 drowned	26 diabetes
23 killed	29 operation
24 tuberculosis	30 to 40 years—
25 killed	30 Bright's disease
28 typhoid	34 tuberculosis
30 to 40 years—	34 drowned
33 suicide	36 accident
34 killed	36 not known
40 to 50 years—	37 not known
40 tuberculosis	40 to 50 years—
45 not known	47 heart failure comp.
48 tuberculosis lung	48 brain abscess
49 pneumonia	48 heart disease
50 to 60 years—	50 to 60 years—
52 liver trouble	50 pneumonia
52 accident	54 heart disease
56 accident	58 heart disease
56 tuberculosis	60 to 70 years—
57 lung trouble	61 heart disease
57 not known	67 heart disease comp.
60 to 70 years—	61 heart disease
60 pneumonia	64 heart disease
60 heart trouble	70 to 80 years—
62 paresis	77 not known
66 pneumonia	72 arterio sclerosis
67 heart trouble	73 kidney trouble
68 heart trouble	74 heart disease
69 heart trouble	70 paralysis
70 to 80 years—	73 kidney trouble
70 not known	73 paralysis
73 heart trouble	73 Old age infirmities
Number of men, 27.	76 heart disease
Average age, 48.7 years.	75 apoplexy
	75 diabetes
	80 or over—
	82 apoplexy
	Number of men, 31.
	Average age, 54.4 years.

The reports from the Life Extension Institute of New York show "a gain in vitality in the younger groups, athletes not considered, but this gain has served to mask a loss in vitality at the older age periods." In the United States registration area the mortality from diseases of the heart, blood vessels, and kidneys increased 41% during the period 1890-1910. The charts prepared by this company show a sharp upward trend in the mortality from organic diseases among males in gainful occupations. (*How to Live,* page 284 et seq., Fisher and Fisk.)

The impressions that come to me after examining this data are that there is not a greater death rate among athletes than among the non-athletes, that heart disease seems to be on the increase, but the deaths are among elderly men, and do not exceed the expected deaths among non-athletes at these ages.

The change from one death every two years during the first half century to over three annually during the second decade may be partly accounted for by old age infirmities.

We do not know that athletics caused these deaths, and the antagonist of athletics should take into consideration other possible causes of demise, such as overeating and drinking, over-work, worry and haste. Again, the protagonist of sports must withhold a final verdict until he has more facts before him regarding the value of competitive sports in making the body efficient as a working machine during the later years of life.

We request the opposing forces to gather actual records before they condemn, and inasmuch as we have material which is quite accurate, and so long as like information against games seems to be lacking, let us keep in mind the words "festina lente." If I were asked to give an opinion, not based on statistics but on observation, as to the danger which is now present or threatened, I have no hesitation in saying that they are too strenuous, the athlete is pushed beyond the limits of safety, he is sacrificed to win games, and the influence of such over-activity has reached the boys in the preparatory schools where it continues to develop harm.

I can not close my article without a few words of praise for the special committees at Yale which have recently been so instrumental in having passed and *put into operation* rules demanding that every athlete shall be examined annually or as many times as the authorities deem it necessary; that any man found to be in the danger zone shall at once be removed from the team. Already several competitors have been dropped.

While we are far from ideal conditions, we at least know it, and are striving to arouse greater interest in the physical well-being of the mass of students, and to safeguard them, and we are making progress.

Perhaps the reader will pardon me if I reiterate what was said when my longevity reports were given some years ago.

"I am particularly interested in anything that will be for the good of the Yale man. If athletics cause harm, then I hope to be found among the first to change them. If competitive sports coupled with the modern methods of training men cause heart disease, I want to know it, but I feel sure that the comparatively positive information that comes from an examination of these and similar statistics is of greater worth than the isolated and rather heated statements that often come from sources where exceptional conclusions are drawn from limited data."

Yale Gymnasium.

Ectopic Gestation.

H. J. Hartz, Philadelphia, contributes a paper on the mode of termination in ectopic gestation, including a report of seven illustrative cases. He observes that ectopic gestation is of more frequent occurrence than is generally supposed. In the gynecological service at the Jefferson and St. Joseph's Hospitals there were fifty-seven instances of the condition during the years 1911, 1912 and 1913. This number also represents 3.4 per cent. of the 1,700 gynecological specimens examined in the laboratory during those three years.

The cases show the various stages of development from two weeks to full term. They further demonstrate the modes of termination in ectopic pregnancy—namely, tubal abortion, tubal rupture, and at times secondary implantation on or in the pelvic viscera. These terminations are frequently fraught with grave danger to the patient.—(*Am. Jour. Obst.*, April, 1915.)

General Scientific

RECTAL FISTULAE.

Varieties, Diagnosis and Prognosis.

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A fistula is the result of an abscess and the burrowing of pus to a greater or lesser degree into the surrounding tissue. The term has been derived from the Latin word *fistula,* meaning a reed, pipe or tube-like channel, and is applied almost exclusively to the fistulous tract found in the rectal region.

The pus from a perirectal abscess extends or burrows along the lines of least resistance and is held between the planes of fasciae and blood-vessels which are able to resist dissolution. An abscess which is not incised, as a rule, extends until it reaches either the skin, mucous or serous surfaces, through which it may discharge itself.

Abscesses found in this region are divided into superficial and deep, dependent, in most instances, upon the division made by the levatores ani muscles. In addition, we may have abscesses which have their origin in Bartholin's glands, the prostate gland, the female generative organs, or the bony structures about the pelvis, which burrow into the ischiorectal fossae and eventually rupture on the skin or rectal surface.

Thus it may be seen that a fistula necessarily begins as an abscess, simple in its onset, but may burrow and rupture at different points, causing a complicated fistulous tract.

Varieties.—Fistulae are so variously described by different authorities as to cause confusion to those not especially interested in the subject. The divisions recognized generally, which I have endeavored to simplify, will be considered as follows: The *complete* and the *incomplete,* which latter includes the blind external and the blind internal.

Fistulae are also classified according to the tissue through which they pass, or beneath which they may ramify. Those which pass beneath the skin are called subcutaneous; those beneath the mucous membrane, submucous; where they traverse the tissue underlying both, they are called submucocutaneous; again, those which pass on the outer side of the muscles of the rectal wall or anus, are called submuscular. The names horseshoe, complex and complicated fistulae are applied to other forms that describe the shape, while others designate the organs involved, such as the recto-vaginal, recto-vesical, recto-urethral and recto-labial. Complete fistulae always have two openings, usually one external on the skin, and one internal in the rectal wall, forming a complete fistulous sinus, but a complete fistula may have both openings on the same surface, the skin, or the rectal wall. As a rule, the internal opening of a complete fistula is situated between the sphincter muscles. This rule is followed because the ischiorectal fossa is mostly hemmed in on all sides by strong resistant tissue in the form of fasciae and muscles which impede extension. The barrier to rupture into the rectum is incomplete, however, at the interval beween the internal and external sphincter muscles. The weakness at this point is supposed to be due to prolonged straining during defecation. In the median line posteriorly, the attachment of the anococcygeal ligament

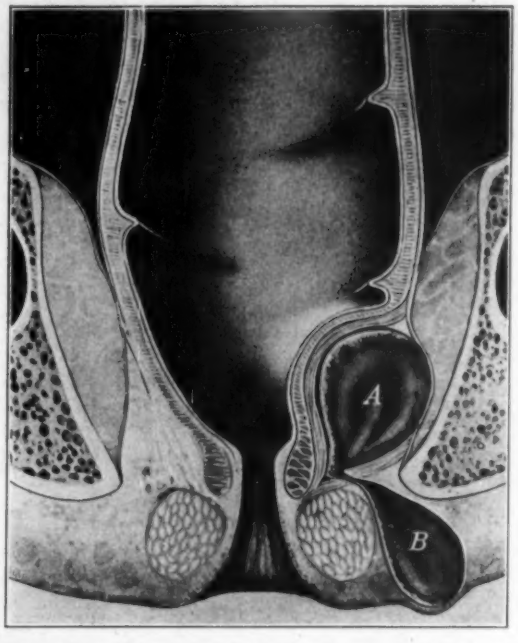

Fig. 1.—Rectal Abscesses. A. Pelvirectal Abscess. B. Terminating in Ischio-rectal Abscess. (Bodkin: *Diseases of the Rectum.*)

to the external sphincter muscle and the incomplete attachment of the levatores ani muscles form a fixed point: here straining weakens and attenuates the tissue.

Blind external fistulae are incomplete and open on the skin only.

Blind internal fistulae are also incomplete and open into the rectum only. These fistulae may burrow beneath the mucous membrane, the muscles or submucocutaneously.

Etiology.—Fistulae are the result of an abscess which does not heal, accompanied by imperfect drainage and re-infection. The origin may be specific, nonspecific, or from an ulcer or break in Nature's barrier which allows infection of the perirectal tissue. Males are more often affected than females. The disease is one of adult life, but there are many exceptions to this statement, as children sometimes suffer from fistulae at a very early age. The constitutional condition is probably one of the greatest factors in abscess formation in children, as tuberculosis, syphilis and protracted intestinal disease are marked predisposing causes. In adults the constitutional condition and catarrhal inflammations of the rectum seem to be the most pronounced factors in the formation of abscesses, which follow infection carried either through the blood-vessels or the lymphatics. The primary source of infection in such cases arising from an ulceration of the rectal mucous membrane, an injury, malignant or nonmalignant growths, or to an invasion from a neighboring organ or bony structure.

Diagnosis.—A fistulous opening on the skin resembles somewhat a pimple with a central ulceration and a ring of indurated tissue which may be surrounded by an area of redness. The internal opening on the mucous membrane is more readily found by the sense of touch which will make out a pin-head opening with an indurated ring completely surrounding it. The eye seldom discerns the small opening on the rectal wall, not on account of its small size, but from the inability to hold the parts in a position to see it. There may be more than one fistula existing at one time, which may

* Read before the Brooklyn Medical Society, Dec. 17, 1915.

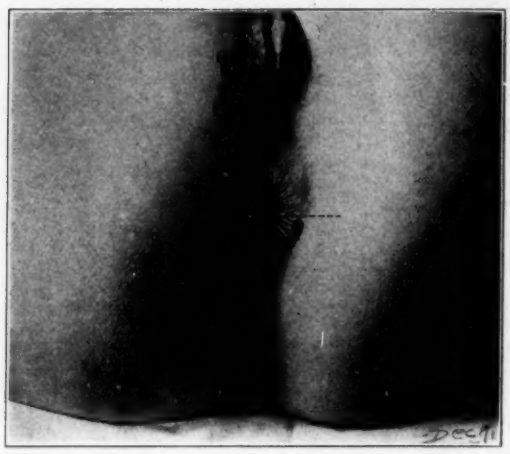

Fig. 2.—Schematic Illustration of the Course of Superficial Fistulae. (Bodkin: *Diseases of the Rectum.*)

be tortuous, or have lateral branches which have extended from the main tract. In tubercular patients, or those suffering from specific disease, there is generally the characteristic appearance of such disease in the rectal lesion.

A typical fistula is best illustrated by the complete fistula which opens internally on the rectal wall and externally on the skin. One opening in the rectum is the rule, but there are many exceptions to these simple forms. More than one external opening is apt to be found oftener than a number of internal openings. External fistulae are more easily recognized, as the external opening can be seen and the tract readily probed. The blind internal fistula has a characteristic doughy swelling over the tract with the subjective symptoms of painful defecation, the occasional discharge of pus from the rectum and possibly with fever at times when the abscess cavity is not emptied.

The direction of a fistula may be found by palpation and probing. In some instances it will be necessary to bend the probe to keep within the tortuous tract and care should be exercised to avoid forcing the probe through the sinus into the surrounding tissue.

In view of the fact that a fistulous tract seldom is straight or remains an even caliber through its entire course, the injecton of some form of staining fluid is of great assistance. Methylene blue, permanganate of potash and numerous other coloring fluids are used. Bismuth paste is also used for the recognition of a fistulous tract. Methylene blue as a means of diagnosis has proved of great value in complicated fistulous tracts and where the communication between two fistulae is so narrow as to make the passage of a probe impossible. Peroxide of hydrogen may be used to force the methylene blue into the ramifications of the tract.

The theory for diagnosis of the complete and blind internal fistulae suggested by Goodsell and Miles will be found correct in 90 per cent. of cases and, therefore, is of great diagnostic value. If one can find the true course of the sinus with a probe by such a correct theory of diagnosis, the operative procedure becomes very easy. This scheme divides the anal ring into an anterior and posterior section. By drawing an imaginary transverse line through the center of the anal opening, it is divided into halves, the upper portion being the anterior and the lower portion the poserior. A fistula having an opening on the skin surface posterior to this imaginary transverse anal line will be found to have its internal opening in the posterior median line, between the sphincter muscles. A fistula having its external opening anterior to this imaginary transverse anal line will be found to have its internal opening on a direct line from it, between the sphincter muscles. The same rule can be followed for locating abscesses with internal openings only (blind internal fistulae).

Prognosis.—The prognosis as to the cure or amelioration of symptoms presented by patients suffering from fistulae is dependent upon the pathological nature of the disease, the constitutional condition, the amount of tissue involved and the intelligent after-treatment. There is no doubt in my mind that some cases of fistulae spontaneously cure themselves. The recto-urethral fistula will often heal up by washing out the bladder or by the use of a catheter, relieving in this manner the irritation and infection from the urine. The question of operation on cases of general tuberculosis suffering from fistulae is very often a hard question to decide so far as the ultimate benefit to the patient is concerned. Whether the opening of these fistula tracts in such subjects permits a copious invasion of the system with tubercular bacilli as the result of cutting away Nature's barrier, or whether it might be due to the shock dependent upon surgical interference, is hard to ascertain. But the fact remains, substantiated by the experience of surgeons generally, that these cases are often made worse by opening up a fistulous tract, so it comes down to the individual judgment of the operator in many of the cases as to the advisability of such treatment. As a rule, a tubercular fistulous tract that is small, with but few lateral burrowings which are not extensive, and those that are superficial (subcutaneous) which might be extensive, can be operated on with good results.

290 Clinton Avenue.

UTERINE SURGERY.*

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Brooklyn, N. Y.

Prolapse of the Uterus.

This case is one of prolapse of the uterus with the cervix at the introitus, with a large cystocele and rectocele. The operation I advise in these cases is the Emmett-Baldwin. Dr. Jewett says that he has seen some of Baldwin's work where the fistula underneath the portion for the cure of the cystocele was absent, but the band could be found above for the cure of the prolapse, but in none of my personal cases have I failed to find the anterior fistula. I have been doing this operaton only for the last two years. I have had some of the anterior sutures cut through, leaving an opening in mybridge across, which had been made for the cure of the cystocele. I find that the longer the wires are left in these cases the better the permanent results will be. Of course, if you find that any of the wires have cut out or untwisted they must of necessity be removed.

I do not feel that this is the last word in operations for prolapse and cystocele, but up to the present moment it is, I feel, the last word. Dr. Baldwin tells me that sometimes with a large urethrocele it is necessary to make two separate denudations and close them over for the cure of the urethrocele in the same manner as we cure cystocele. We must look forward to the time when we can do a submucous operation for the cure of the

* Gynecological Clinic at Kings County Hospital, Dec., 1915.

cystocele on the same principle as this operation is done, and I feel that the time is not far distant when we will be doing such an operation. If we can do that we shall avoid dystocia from the band when this operation is done upon women during the child-bearing period. A patient upon whom I did this operation two years ago at the Swedish Hospital, and who was seen again last April (she is a young woman during the child-bearing period), was found to have, although her prolapse and cystocele were absolutely held up, a retroflexed uterus which could be easily made out by rectal examination. I saw her again two weeks ago and she is three months pregnant. The uterus has come up to its normal position and her future history as to her delivery will be interesting.

One of these cases that was done by Dr. Baldwin came into the obstetric service at the Jewish Hospital the other night, having been in labor for some time. A dystocia due to the upper band was found, the band cut and the patient easily delivered.

The only way to deliver these patients is by cutting this anterior band and sewing it up, either immediately after the delivery, or, if there is considerable edema, allowing it to go for two or three days and then sewing the band together, to attain the original condition and thus prevent a recurrence of the prolapse.

Retroversion of the Uterus.

The next case is one of movable third degree rèstroversion with a bilateral laceration of the cervix. The retroversion comes up easily under bimanual manipulation. Dr. Pfeiffer will proceed with the dilatation and curettage and trachelorrhaphy; then we will place a pessary, which, to me, is rather important in the ultimate results to be obtained following the Alexander operation. With an ordinary retroversion always use a pessary. With a restroversion and retroflexion before doing an Alexander introduce a stem and a Smith-Hodge pessary.

I am using silver wire for the placing of stems at the present time. I recently saw a case in my office that I did two months ago. That patient has gone through two menstrual periods and the outer end of the stem is just appearing at the external os. The girl had had a severe dysmenorrhea, enough so that it had interfered with her work all during her menstrual life (she is now 22 years of age), and her periods since she has had the stem in have been practically normal. They have been painless, but she has been slightly nauseated.

During an operation for retroversion here last week on a virgin 22 years old, which was operated upon six months ago in St. Luke's Hospital, Borough of Manhattan, for the same condition, a wonderful opportunity was afforded to go in the belly and see what had been done. I made a Pfannenstiehl skin incision and a longitudinal fascial incision for exploration of that belly and a Coffey had been done at the previous operation, evidently a beautiful Coffey, but the retroversion had recurred, and after loosening up the adhesions I stripped the skin and subcutaneous tissue down to the external rings and did the regular Alexander operation. Of course, it remains to be seen whether the round ligaments will hold under those conditions or not. This patient was seen at my office on Feb. 8, 1915, and the uterus is still in a good Alexander antenented position.

The Coffey operation is the plication of the broad and round ligaments on the front of the uterus. There were adhesions to the round ligaments on both sides in that case. Those adhesions, which had followed the Coffey, I loosened up before proceeding with the Alexander, because I needed that portion of the round ligament. We place no gauze in the vagina after the Emmett-Baldwin because of the probability of disturbing our silver wire sutures when the gauze is taken out.

In preparing for this operation we follow this plan: Tub bath with shampoo on admission, or bed bath and shampoo if too ill for tub. Initial purge as ordered; light, or liquid diet without milk, according to how soon operation is to be done. Two nights prior to operation 1 oz. each of Ol. Ricini and Syp. Rhei given; morning of day before operation S.S. enema, and diet is now liquid without milk; noon of same day S.S. enema repeated, a full tub bath and shampoo followed by 1-5000 bichloride tub bath with same to hair. Next in dressing room nurse shaves patient at site of operation, a high colonic irrigation given until returns clear. Two douches then given: (1) Bichloride in sterile water, ether and alcohol; HgCl2 1-5000 last. Compresses wrung out of Sat. Thieren solution are covered over entire shaved area, and left on over night, covered with towels and binder. On day of operation patient in dressing room is again scrubbed as above (after the two douches are repeated), and area covered with 1-4000 Bichloride dressings, and goes to the operating room with them on. If ordered, a hypo. of Morph. Sulf. gr. 1-6, and Atropine Sulf. gr. 1-150 is given one-half hour before operation.

Operation.

We do not do the Alexander-Adams, but the Alexander operation. We get in view here in the upper part of this incision, a vein which often is one of our landmarks. The incision should go primarily down to the fascia of the external oblique. A sponge is a great aid in this operation for the purpose of clearing off the fascia of the external oblique and exposing the external ring. Here are the external ring, the cribriform fascia and the ilio-inguinal nerve. I do not know of any operation which requires more attention than this little one. When you begin to see the preperitoneal fat you can be sure of what you are doing. That must be stripped back. The reason for the abandonment of this operation by many men is due to the fact that the peritoneum is not stripped back. If you do not strip it back you have the sac of a hernia. The other day I had to go in on one of these cases and could not find the round ligament on one side, and when I got in I could not follow it up from the inside. In looking up the literature on this subject I found that Dr. Paul F. Mundé abandoned this operation when it was first brought out after trying four cases because he could not find the round ligament on one side in the whole four and he found it on one side in the other three. Those men knew their anatomy just as well as we do.

I keep an Albert-Smith or Smith-Hodge pessary in about three months. In that way we can keep track of the patient. I take it out after every menstrual period.

You come in very close relation to the deep epigastric vessels here sometimes. In a case that I had last week I had to tie them off on one side. The lower end of this ligament we attempt to sew to the inner pillar of the ring and Gimbernat's ligament.

The last time that I saw Dr. Barrows do this he told told me that the distal end of the stump of the round ligament ought to be tied off owing to the fact that there is sometimes bleeding from the end. I mattress the fascia. Ordinarily I do not open the peritoneal cavity? I grasp the fascia here, going directly through the skin and fascia below. It does away with any dead space. We have a little oozing here which must be stopped.

375 Grand Avenue.

HOW TO AMPUTATE THE INDEX AND LITTLE FINGERS.

Report of Cases.

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L. C., age 7, U. S. family history negative. Child has always been delicate. Three weeks ago the left index finger was squeezed in a door injuring the proximal phalanx. The finger became swollen and finally broke down and discharged pus. The child was taken to the Long Island College Hospital and the index finger was amputated as shown in Plate I. When I took the service the child had developed pain and swelling in the proximal phalanx of the fourth finger of the other hand as shown in Plate II. Examination showed the stump of amputation of the index finger painful and that the hand was awkward and unsightly. It showed the fourth finger swollen and painful.

Plate I.

Diagnosis.—Tubercular disease of the marrow of the phalanx. In reaching a decision to operate, I reasoned that no operation would be worth while unless every iota of disease could be locally eradicated. The hand could be made more symmetrical and sightly by cutting off the head of the metacarpal bone of the index finger obliquely as shown in Plates III and IV.

Plate II.

Operation.—The fourth finger was amputated and the head of the metacarpal bone of the index finger was cut off obliquely. The incisions were carried into healthy tissue.

H. A. C., age 46, U. S. broker. Family history negative. Suffered from diabetes for some years. He crushed his left index finger which became gangrenous. My examination revealed acidosis. His carbohydrate tolerance was found. Intravenous injections of sodium hydroxid relieved acidosis.

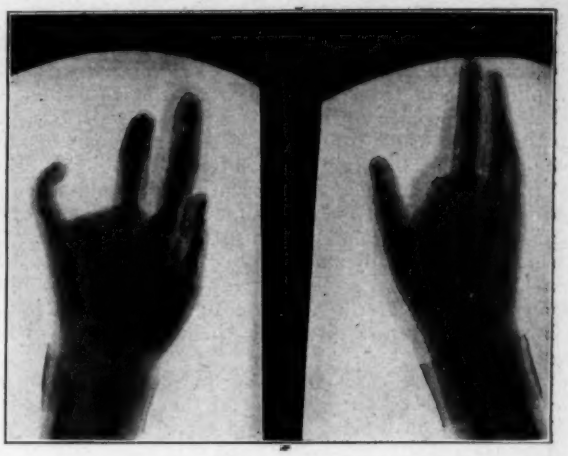

Plate III.

Operation.—The head of the metacarpal bone of the index finger was cut off obliquely with the finger. The wound was closed and healed per primum. The symmetrical hand resulting from this procedure is shown in Plate IV.

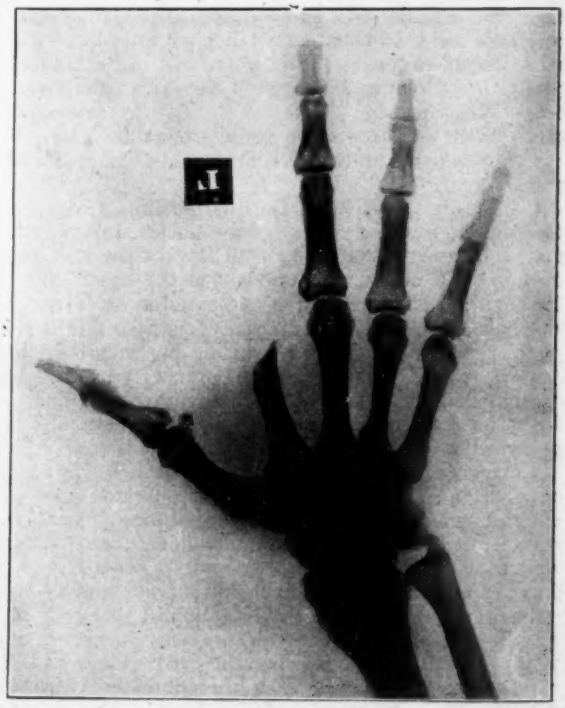

Plate IV.

Conclusion.—The head of the metacarpal bones of the index and little fingers should be cut off obliquely so as to give a shapely hand in amputating these fingers.

30 Schermerhorn Street.

It is essential that a man confine himself to pursuits which lie next to and conduce to his life, which do not go against the grain either of his will or his imagination.—GEORGE F. BUTLER.

A STUDY IN HOUSE DUST.

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Mount Vernon, N. Y.

After several years spent in devising methods for the estimation of dust motes per cubic centimeter and flying dust particles per cubic foot of air, I was forced to the conclusion that any benefits derived from the study of dust must depend on qualitative rather than quantitative analyses. Moreover, so far as dust motes, the true floating matter of the air, are concerned, investigations thereof belong to the domain of meteorology, and not to that of sanitary science. Possibly the study of meteoric iron and of chlorine "zones" may also be excepted.

Admitting that one cannot draw a hard and fast line between dust motes and flying dust—for there are dust motes that settle and flying dust that practically does not—there is a broad distinction between the particles that, approaching molecular sizes, remain floating for an indefinite time, and the dust blown out of the streets into our dwellings.

The widely divergent character of flying dust will be apparent in the following description of the matter collected at two exposures situated on opposite sides of my laboratory, at a height of about fifteen feet from the ground. One exposure faces a much-travelled street; the other, eight hundred feet of yards and lawns pretty thickly set with trees and shrubbery. In each case the dust passes through an ordinary window screen and settles on glass slips whose only preparation is chemical cleaning.

On the side of the house facing the street, by far the greater part of the dust—perhaps 90 per cent.—consists of horse dung. The character of the dust changes from time to time, however. When the tarred surface of the street is worn off, the proportion of earthy matter is very much greater; and when the tar surface is fresh, there is practically no flying dust at all. On the hard-paved streets the flying dust consists almost wholly of horse dung. It sprinkles the interiors of shops on these streets, and I rarely find fruit and vegetables which are not kept under cover free from this sort of dust. One baker, whose shop is on a commercial street, keeps the products of his shop in glass cases that are as nearly dust-tight as it is possible to make them. The drawers are metal-lined and each has an inside cover. Absolute cleanliness and an intelligent regard for good sanitary conditions have brought to the proprietor a very desirable class of customers.

The horse dung content of flying dust is a menace not only to foodstuffs, but is liable to contaminate water supplies. My friend, Dr. L. P. Goldhorn, bacteriologist, has found one case where a reservoir has been contaminated by colon bacilli, and it is not unreasonable to suspect that wind-blown horse dung was responsible for the mischief.

The dust caught at the window facing the green sward is not only a great contrast to that entering the window opposite; it is a fascinating study, as well. During the summer months, the particles lodging on the glass slips consist mainly of smut and similar parasitic matter from nearby foliage. They include a variety of forms and represent half a score of species. In color the particles are black, red or yellow. The fragments of the cups and the spores are well preserved. The black smut comes from the foliage of the English hawthorne trees, though the foliage of certain other trees is not beyond suspicion. Throughout the late summer the eggs of insects are numerous. Some are unmistakably the eggs of lepidopters; others seemed to be the products of dipterous insects. Some of them are in clusters that transmit a beautiful fluorescent green light. The "dust" from lepidopters is represented in great variety, and the pollen of flowers is almost always present.

Soot particles are frequently in evidence, and so are bits of ash. Spherules of meteoric iron are caught now and then. They are so mobile and apparently so light as to lead one to suspect that they are hollow bubbles of metal. Now and then one appears with a smaller spherule attached to it. During the month of August, 1915, meteoric iron was rather more abundant than usual. The glass slips on which it is caught are placed on the poles of a strong magnet.

Not a little dust is carried into houses by means of the hot-air furnace. Most of this sort of dust is preventible. If all the joints of the furnace are luted during the summer cleaning of the furnace, but little dust will be carried into the ducts. A great deal of dust is "tracked" into houses. Walk a hundred yards on a flagstone pavement and then step on a piece of black cloth. A one-inch objective and a micrometer will show anywhere from 1,000 to 5,000 particles per square inch. The rest is merely a sum in multiplication. For the greater part this sort of dust consists of earthy matter—as a matter of fact, much of it is trap rock scuffed from the street paving, or of limestone from the flags.

The dust accumulating in sleeping rooms has two additional elements—lint from the bedding and scarf-skin from the body. The latter is finer than the finest flour. It can be removed easily from woollen blankets, but a vacuum-cleaner is about the only thing that will remove it from the mattress.

Perhaps the claim that dust is a breeder of disease is somewhat too sweeping, but certain it is that the absence of dust in our houses will harm no one. To eliminate all the dust from a city or a village may be an impossibility, but much of it may be kept out of the house and practically all of it may be kept away from our food. Sprinkling macadamized streets with water prevents flying dust; tarring them is much more effective. Tarring the three streets nearest my laboratory reduced the flying dust 98 per cent. for more than two months; and when the amount increased, the increment consisted chiefly of horse dung.

Air currents are responsible for the distribution of dust, and whatsoever places air currents reach they carry the dust. Dust will enter recesses that water will not penetrate. Dust may not always be "dirt," but it comes mighty near to the deadline.

254 So. Second Avenue.

Kelly and Burname divide pathological uterine bleeding into four groups:

1. Bleeding uteri without demonstrable lesions—the so-called myopathica hemorrhagica.
2. Bleeding uteri in young girls—the cause of which may fall into those in group one or three.
3. Bleeding uteri from polypoid endometrium i. e., polypoid endometritis.
4. Bleeding myomatous uteri.

In some cases of hematuria the only abnormal constituent in the urine is blood, while in other cases it is mixed with pus, mucus, tuberculous material, portions of tumors or micro-organisms, the detection of which throws considerable light on the etiology of the malady.

WHITELAW'S EXPERIENCE.

HOWARD LILIENTHAL, M.D., F.A.C.S.
SURGEON TO BELLEVUE AND MT. SINAI HOSPITALS,
New York.

I.

James Whitelaw was alarmed. Not that he would have admitted it, however, to his oldest and best friend—hardly even to himself. But, like many another successful business man, he was a wee bit superstitious; and when after the worry and stress of the past six months he had unloaded the Midland and Marine Railway which for years he had quietly fought to control, and when on counting up he had found himself a million and a quarter to the good, he felt that it was about time for something disagreeable to turn up just to make things even.

For half a year the excitement of the big deal had made him a stranger in his own home. He had put off the pleadings of his wife, who with true motherly instinct had anxiously noted the hollowness of his eyes and the increasing gauntness of his face, with the assurance that when "this deal" was over they could take their first real vacation. But now—just now—he was occupied with the most important business stroke of his life and he could not "take care of himself."

If he looked fagged, small wonder when fat cigars took the place of meals and the social cocktail served the added purpose of whipping up the tired brain.

Well, it was over and he had won out. Together with the fortune which had been gradually accumulating during his entire career this final brilliant prize made the road clear for well earned rest and for the indulgence of hobby riding—that wonderful kind of hard work which is the truest recreation.

For the first time in half a year Whitelaw had dined at home and had promised his overjoyed wife the entire evening, "the first of many," he had announced, to celebrate as she desired. Tonight it was to be Farrar in "Butterfly."

In spite of the uneasy gnawing pain after food which had lately caused him to avoid the salads and heavier courses, this time he partook freely so that Mrs. Whitelaw's pleasure might not be marred by solicitude on account of his abstinence. But when Whitelaw went to his den for the tickets the pain and nausea became so distressing that relief was imperative—and afterward, on wiping his lips, a red stain upon his handkerchief had startled him.

Quietly he seated himself at his desk and tried to compose himself. It could not be anything serious! —and the pain had now quite vanished. Yet there was poor Willard who died last year of cancer of the stomach!

Gradually he lapsed into a deep reverie from which he was aroused ten minutes later by his wife who stood in the doorway.

"Oh! Dearest! What has happened? You look so blue! And I believe you have forgotten our engagement. If you think the opera will tire you we'll not go."

Instantly Whitelaw had control. "No indeed, sweetheart, I wouldn't miss it tonight of all nights. I was just woolgathering—a bad habit I've lately contracted. Is the car at the door?"

II.

Dialogue three days later at the Consulting Rooms of George Bardwell, M.D., F.A.C.S.

Whitelaw: "Well, Doctor, what's the verdict?"

Dr. Bardwell: "Except for your twenty pounds loss in weight and the sallow tint of your skin I can find nothing tangibly wrong with you."

Whitelaw: "You mean that all I have to do is to fatten up a little and that my indigestion will disappear?"

Dr. Bardwell: "I did not say that. Even without any visible signs you have a history which strongly suggests some organic trouble. For years you have been most irregular in your habits. You have been kept for days and weeks at a time in the state of nervous tension which causes the gastric glands to pour out acid and to lock in it the stomach. You have bolted your food in your jealousy of the working hours of the day. You have irritated with alcohol and tobacco the delicate lining of the mouth and the stomach."

Whitelaw: "Please, sir! I didn't mean it! You certainly make me feel myself a sinner! Yet you say you can't find anything the matter with me. What is your advice?"

Dr. Bardwell: "The *x*-ray should help us. If that also proves negative I shall send you back again to our friend, Dr. Delaney, for medical treatment:"

Whitelaw: "But, Doctor! I have no broken or displaced bones, have I? Surely the *x*-rays can't show changes in the flesh."

Dr. Bardwell: "I see you've been so wrapped up in your business that the world has left you several laps behind! Certainly the Roentgen rays can do more than show broken bones and bullets. Sometimes they detect changes which can only be suspected with all the older diagnostic aids."

"Many of the hollow organs of the body are shown most accurately in outline and with the help of the stereoscope they stand out in three dimensions. The chest looks like a wonderful chamber of glass in which we can clearly discern the heart and the delicate tracing of the lungs. Even the skull becomes transparent."

Whitelaw: "You astonish me and I am most impatient to behold this true picture of my inner self! Will you not photograph me at once?"

Dr. Bardwell: "I will direct you to a laboratory where this work can be done. Roentgenology has become a great department of medical science with many specialties within it. To take the picture is the task of a mere technician. The study and interpretation of the finished plate and the actual inspection of the living, moving body with the fluoroscope are work for the skilled observer. There are those who specialize in the radiology of the chest; others who devote themselves almost exclusively to the abdomen. Modern dentistry would be seriously handicapped without its radiography. And yet this great field of investigation is but in its infancy.

"Your own case will require a thorough preparation of your alimentary canal; then you will make your first visit to the laboratory—on an empty stomach. After taking what is known as the *x*-ray meal, an opaque milky liquid, there will be plate exposures and dark room examinations in a profusion which will appear to you most wasteful. Yet remember that the stomach is in constant motion so that its outline is ever changing. In the early days of radiography wrong diagnoses and unnecessary surgery were not unknown because we placed too much reliance on a single plate.

"Costly as it is, the present method is in truth efficient and economical if it can but avoid the suffer-

ing and expense of an operation with its weeks of after treatment.

"And even that radiograph which reveals nothing anatomically wrong may be quite as important as one which indicates disease. For example: indigestion with pain in the upper abdomen often means a lesion of the stomach; but these symptoms may also be caused by an appendix grumbling in the distance. The radiograph showing a normal gastric outline will then tell us that we must look elsewhere. Kast* has put the matter well when he said 'As soon as our eyes were opened to the conditions of the living organs in the abdomen, biology took the place of speculation and post mortem deductions.'

"But, my dear boy, I'm boring you with all this shop. I've only begun to skim the surface, yet I get so enthusiastic about it all that I don't know when to stop."

Whitelaw: "Indeed, no. On the contrary you have opened a fascinating new world to me. I am looking forward with genuine interest to my novel experience. Thank you for your sympathetic kindness and *au revoir*."

III.

"Do you know, dear Jim," said Mrs. Whitelaw, "that it is just three years since you came home after your operation at the Samaritan? You've never been so well since I have known you and I am a perfectly happy woman."

James Whitelaw, a little grayer but ten years younger for all that, put down his evening paper and walked over to his wife's chair.

"Sweetheart," and his arm rested about her shoulders, "I am blest far beyond my deserts. In the early afternoon of life I have the most perfect friend and companion in the world. We have health and love. I have not forgotten three years ago and I mean to show my gratitude in the only way I can. I have just been informed of my election to the board of managers of the Samaritan Hospital and—"

"Oh! I'm so glad!" Mrs. Whitelaw delightedly interrupted. "You needed just that and you'll do such splendid things!"

"I shall certainly do my best and you must admit, I'm well fitted for the job. I have always preached starting at the bottom and no one could begin hospital work on a lower plane than that of a mere patient—'material,' I believe is what they are called by our scientific physicians."

"Don't you think, Jim, that you ought to make some special offering to mark your entrance into this new avocation?"

"I surely do," said Whitelaw, "and since I've always believed that next to the operation itself the radiograph was the means of saving me I intend to ask for the privilege of supporting the *x*-ray department during my lifetime and I want you to make the institution a noble gift when I am dead."

"Shame! Jim! to talk so gruesomely. Give it yourself—now—and live to enjoy the magnificent spectacle of its fruits."

IV.

Every year cancer of the stomach robs the world of thousands of mature men and women at the time of life when they should be most useful.

The disease here, as in other parts of the body can be eradicated by its surgical removel and in *no other way*.

To act promptly an early diagnosis is imperative.

*New York Medical Journal, December, 1915.

The disease is rare under the age of 25 but its mortality increases rapidly after 35. The number of deaths is greatest in the decade between 55 and 65. It is almost as frequent in women as it is in men.

The onset is occasionally insidious so that malignancy may be far advanced when the first warning comes.

To await the appearance of unmistakable physical signs of the malady means fatal postponement of the operation.

But beware of carcinophobia, the *groundless* fear of cancer; like the case of the medical student who on learning that cancer of the stomach may present no symptoms whatever diagnosed the disease in himself because he felt perfectly well!

In a person more than 45 years old persistent dyspepsia with loss of weight should be noted with suspicion.

A change in appetite, such as a distaste for meat is not infrequently a symptom.

Pain at the pit of the stomach and vomiting, often without visible blood, are still graver danger signals.

The most careful investigation at the hands of a skilled physician is urgently necessary, and all the diagnostic methods of our day should be brought to bear.

Of these the *x*-ray is the most illuminating.

48 East 74th Street.

PROGRESS IN PUBLIC HEALTH WORK DURING THE YEAR 1915.

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The steady progress of public health work and its support by the various departments of government was noticeable during the year 1915, and health administrators note with satisfaction that the general death rates throughout the registration area have again diminished.

It is always gratifying to note that the public generally is supporting the public health movement with the realization that the better the public health is the greater likelihood there is of the individual retaining his good health.

It would not be possible at this time to give in detail all the different items of progress that occurred during the past year, nor to speak at all of the methods by which these advances were obtained.

Legislation.

Without satisfactory legislation but little advance can be made in any governmental work, and by far the greater advances in public health have been made in those cities that have had a health administration under the constant supervision of a trained sanitarian. Amendments enacted during the past few years in various States have resulted in a reorganization of a number of State health departments, and the object of the amended legislation in the reorganization in the departments has been to bring to the small cities and more sparsely settled districts the advantageous results that had been obtained in the larger cities. This has been carried out notably in the States of New York, Massachusetts and New Jersey, where the law gives supervisory powers to the State Health Department, where formerly only advisory powers were obtained.

Laboratory Service.

There is no more important duty of a health department than to furnish to all to whom such service is not already available, the opportunity for a prompt diag-

nosis of certain communicable diseases, and the distribution of suitable antitoxins and vaccines for the treatment of diseases which respond to such methods. The City of New York has always been at the forefront in laboratory service, and the laboratory of the New York State Department of Health has rapidly extended its service so that now it offers diagnosis for diphtheria, tuberculosis, typhoid fever, syphilis, gonorrhea and other miscellaneous diseases. Investigations are being made on the diagnosis of different types of pneumonia. Anti-streptococcus serum and anti-meningococcus serum are now distributed; also vaccines for the prevention of pertussis and typhoid fever, as well as the antitoxins for tetanus and diphtheria, which have been distributed for some years.

Application of New Scientific Discoveries.

Noguchi's work in the production of a sterile smallpox vaccine which has been perfected during the last year is of great importance as it affords a method of controlling the virulence of a pure vaccine which may be transmitted from animal to animal without chance of contamination.

The differentiation of the different strains or types of the pneumococcus by Cole and Douchez at the Rockefeller Institute and the treatment of those types by homologous serum seem to offer more definite results in the treatment of pneumonia than has heretofore been possible in this country.

The more definite dosage of sera needed for diphtheria and tetanus as formulated by Park, Nicoll and Zingher of the Research Laboratory of the New York City Department of Health appears to be of great assistance in diminishing the deaths from diphtheria when it is more generally appreciated and more widely used.

The use of the Shick reaction in distinguishing persons susceptible to diphtheria from those who are in a degree unsusceptible as also worked out by Park and his associates will be of great practical value in controlling diphtheria epidemics.

The studies on nutrition in relation to pellagra carried out by the Federal authorities under Goldberger have convinced Goldberger and his associates that pellagra is distinctly a nutritional disorder and not a communicable disease.

The isolation from the blood and the identification of a specific bacillus as the cause of typhus fever by Plotz seems to be generally accepted and this bacillus has been named by Welch the "bacillus typhi exanthematus." Plotz has also succeeded in producing a preventative serum but adequate data as to the results of its use are still lacking.

Control of Communicable Diseases.

Although there is no new method for controlling communicable diseases, yet the amended laws alluded to above bring to smaller cities and rural districts skilled epidemiologists in several States which assist in the more early diagnosis of communicable diseases and the more effective control of outbreaks. Increasing cooperation between medical school inspectors and health authorities aided materially the detection and exclusion from school of children affected with or suspected of having a communicable disease.

School supervision has been accomplished in greater detail in Minnesota by obtaining a school census in each school at the beginning of the year and noting on a card index what diseases each child had had, and the teacher or principal could then readily learn whether or not a certain child should be excluded from school on account of an outbreak of communicable disease in that school.

In Vermont a special effort has been made to control poliomyelitis, which has existed in epidemic form throughout the State, by employing a special corps of workers fully conversant with the disease to organize local meetings of physicians and instruct them as to the methods of early diagnosis. By these means it has been possible to discover a large number of cases of poliomyelitis of a very mild type which would otherwise have been overlooked.

Vital Statistics.

The importance of the prompt reporting of births is being more and more realized and the Bureau of the Census has established a provisional registration area for births consisting of the States of New York, Michigan, Pennsylvania and Massachusetts and the vigorous enforcement of the Vital Statistics law of the State of New York makes it seem likely that, instead of the average guess of 90% efficiency, in the future nearly every birth occurring in New York will be reported to the proper authorities.

Public Health Education.

One of the most important phases of public health work has been the need of placing before the people at large accurate statements of the various public health problems and to present them in such a form as will be read and readily understood by the readers. The establishment of Divisions of Public Health Education in the State Department of Health of New York, and in the Department of Health of the City of New York makes it possible for them to issue regular bulletins to a large mailing list, and the proper use of publicity brings before the public much-needed advice on public health matters.

An important feature of this work in the State Department of Health of New York has been the mailing of matter already set up in so-called "boiler-plate" form to several hundred newspapers in the State which during the year 1915 reach nearly a million readers every week.

The need of co-operation of the public in health work is being more and more appreciated by health departments and no health department can now be assured of complete success if they work on the old fashioned arbitrary methods. Constant instruction will convince the people, and regulations will be then more readily enforced and the department enforcing the regulations will be assured of more complete success in protecting the public health.

Tubal Pregnancy Showing Fetus Undergoing Dissolution.

C. E. Purslow recently presented to the Royal Society of Medicine a specimen removed by abdominal section from a married multipara, aged 31. Menstruation had been regular until twelve weeks before admission to hospital; amenorrhea then set in and continued until a fortnight before admission, since which time there had been continuous slight loss; there had been two typical attacks of pain with faintness. On examination there was a well-marked tumor in the left iliac region. This was diagnosed as a tubal pregnancy, but the physical signs were unusual, in that the swelling was entirely above the pelvic brim and could not be reached by the finger either in the vagina or the rectum. The specimen showed the unruptured distended tube. Cross-section showed a diameter of 2¼ inches. The tube was filled with firm blood-clot, in the centre of which was an amnial cavity containing turbid fluid, and in this was found the macerated head of a fetus of about ten weeks' development; no other part of the fetus could be found.

JURISPRUDENCE OF THE ALCOHOLIC PROBLEM.*

ANDREW WILSON, Ph.D., D.C.L.,
Washington, D. C.

The appalling inroads of the alcoholic liquor traffic upon the peace, good order and safety of society have compelled the investigation of the effect of alcohol upon men and nations. Countless numbers are its victims in nearly all lands. It destroys life ruthlessly. It has weakened and pauperized nations. In our own country it is estimated two and one-half billion dollars are spent annually for intoxicating beverages—about twenty-five dollars for each inhabitant. No one not engaged in the traffic for gain, exploiting it for hire, or defending it upon the ground of political expediency, can think of alcohol as a beverage in terms other than as a poison. Crime and vice are fostered by it on every hand. The criminologist declares that it is responsible for most of the crime committed. The economist says that it is the cause of the greatest waste. The physiologist states that it poisons the body. The psychologist points to it as one of the chief causes of mental impairment and insanity. From the statistical abstract Charles Stelzle, the labor expert, has shown that the capital employed in the liquor trade would employ about five and one-half times as much labor if employed in useful industries.

It has been estimated that the moderate drinker shortens his life from ten to thirteen years. Organized society is entitled to the best and most efficient life of its members. Alcohol must therefore be recognized as the chief enemy of social order.

Some Definitions.

Jurisprudence is defined to be the science of law or of systems of law. It will be helpful to ascertain the sources from which the related systems of law applicable to the alcoholic problem are abtained. What do the terms "people," "state," "body-politic," "sovereignty," "government," "law," and "liberty" mean?

"A 'people' is a large number of human beings, united together by a common language, and by similar customs and opinions, resulting from common ancestry, religion and historical circumstances." (Holland, *Jurisprudence* 40.)

"A 'state' is a numerous assemblage of human beings, generally occupying a territory, amongst whom the will of the majority, or of an ascertainable class of persons, is by the strength of such a majority, or class, made to prevail against any number who oppose it." (*Idem.*)

In the case of Chisholm, Executor, vs. Georgia, 2 Dall. 419, 455, Mr. Justice Iredell in delivering the opinion of the Court said:

"By a State, I mean a complete body of free persons united together for their common benefit, to enjoy peaceably what is their own, and to do justice to others."

Judge Cooley says: "A State is a body-politic, or society of men united together for the purpose of promoting their mutual safety and advantage, by the joint efforts of their combined strength." (*Constitutional Limitations* 1.)

Mr. Tucker (*Constitution* 1, 2) defines a body-politic to be "the organism in unity of the many human beings, associated by jural bond for the objects of the social state in which is vested all rightful political power over its members for the common good of all. The rightful political power so vested, we call Sovereignty, or Supremacy over men and things."

"The sovereignty of the nation is in the people of the nation, and the residuary sovereignty of each State in the people of each State." Chisholm vs. Georgia, 2 Dall. 419, 471.

In Yick Wo vs. Hopkins, 118 U. S. 356, 370, the Supreme Court said: "Sovereignty is, of course, not subject to law, for it is the author and source of law; but in our system, while sovereign powers are delegated to the agencies of the government, sovereignty itself remains with the people, by whom, and for whom, all government exists and acts."

"The organic force of the Body-politic, that social power which controls persons and things for peace, order and common weal, is what we call Government. The expression of that force is law." (Tucker, *Constitution* 1, 2.)

Law is the supreme power in the State. There are two general agencies in making law—legislatures which make new laws and courts which interpret and apply old laws, but frequently adduce new principles in doing so.

It has been said that liberty consists only in the power of doing what we ought to will, and in not being constrained to do what we ought not to will, and is a right of doing whatever the laws permit.

At the time the Constitution of the United States was submitted to Virginia for ratification, Patrick Henry in opposition to it declared its features to be "horribly frightful' and that

"a very small minority may continue forever unchangeably this government, although horridly defective." (*Elliot Deb. III*, 23.)

Edmund Pendleton, president of the Convention, replied that "There is no quarrel between government and liberty. The former is the shield and protector of the latter. * * * Government to be effectual must have complete powers, a legislature, a judiciary, an executive. * * * It is on the whole complexion of it a government of laws and not of men." (*Elliot Deb. III.* 35-41.)

John Marshall took the same view in that convention and later in Marbury vs. Madison, 1 Cranch, 137, 163, the first of his great constitutional decisions, he said:

"The very essence of civil liberty certainly consists in the right of every individual to claim the protection of the laws whenever he receives an injury. One of the first duties of government is to afford that protection. * * * The government of the United States has been emphatically termed a government of laws, and not of men."

If, therefore, the Federal Government is a government of laws and not of men, it is readily seen that civil liberty is its purpose and not the much vaunted *personal* liberty which depends not upon the collected will of the social order which finds its expression in law, but in the whim, caprice, unrestrained passion, or license of the individual. In this sense personal liberty is antagonistic to law and to the purposes of government. In its last analysis it breeds anarchy and is an enemy to the state. Citizenship is not the basis of such liberty. Who are citizens? Chief Justice Waite in delivering the opinion of the Court in U. S. vs. Cruikshank, 92 U. S. 542, 549, said:

"Citizens are members of the political community to which they belong. They are the people who compose the community, and who, in their associated capacity, have established or submitted themselves to the dominion of a government for the promotion of their general welfare and the protection of their individual as well as their collective rights."

At common law there was no restraint upon the sale of alcoholic liquors. It has also been repeatedly held license laws are not void because the sale of liquors is destructive of the pubilc health and they do not contravene the Constitution of the United States.

In Bartemeyer vs. Iowa, 18 Wall. 129, it was held that the right to sell liquors is not one of the privileges and immunities of citizens of the United States which the states were forbidden to abridge by the Fourteenth Amendment. Doubt was expressed as to the validity of a statute which would prevent the sale of liquors already on hand at the time the act was passed

In Mugler vs. Kansas, 123 U. S. 623 it was held that a prohibition upon the use of property for purposes that are declared by valid legislation to be injurious to the health, morals or safety of the community, is not an appropriation of property for the public benefit in the sense in which a taking of property by the exercise of the State's power of eminent domain is such a taking or appropriation. * * * The destruction in the exercise of the police power of the State of property, used in violation of law, in maintaining a public nuisance is not

* Read at the meeting of the American Med. Society for the Study of Alcohol and Narcotics, Washington, Dec. 15, 1915.

a taking of property for public use, and does not deprive the owner of it without due process of law.

In the above case the Court by Justice Harlan said:

"But by whom, or by what authority, is it to be determined whether the manufacture of particular articles of drink, either for general use or for the personal use of the maker, will injuriously affect the public? Power to determine such questions, so as to bind all, must exist somewhere; else society will be at the mercy of the few, who, regarding only their own appetites or passions, may be willing to imperil the peace and security of the many, provided only they are permitted to do as they please. Under our system that power is lodged with the legislative branch of the government." * * *

"The principle that no person shall be deprived of life, liberty, or property, without due process of law, was embodied, in substance, in the constitutions of nearly all if not all of the States at the time of the adoption of the Fourteenth Amendment; and it has never been regarded as incompatible with the principle, equally vital, because essential to the peace and safety of society, that all property in this country is held under the implied obligation that the owner's use of it shall not be injurious to the community."

In the case of Crowley vs. Christensen, 137 U. S., 86, Mr. Justice Field in delivering the opinion of the Court said:

"It is undoubtedly true that it is the right of every citizen of the United States to pursue any lawful trade or business, under such restrictions as are imposed upon all persons of the same age, sex and condition. But the possession and enjoyment of all rights are subject to such reasonable conditions as may be deemed by the governing authority of the country essential to the safety, health, peace, good order and morals of the community. Even liberty itself, the greatest of all rights, is not unrestricted license to act according to one's own will. It is only freedom from restraint under conditions essential to the equal enjoyment of the same right by others. It is then liberty regulated by law."

A License to Sell is a Personal Permit.

The executors under a will obtained an order from the Supreme Court of the District of Columbia holding a probate court which "authorized and directed" the continuance of a retail liquor business which had been carried on by the testate. The then excise board intervened and on appeal to the Court of Appeals of the District of Columbia, the latter Court said:

"That a license to sell intoxicating liquors is personal to the holder, a mere permit, and not transferable unless the right is expressly conferred by statute, is plain, the decisions on the question being uniform and conclusive." Richards vs. Geiger, 39 App. D. C. 272, 284.

May Prohibit for All Purposes.

A Georgia statute absolutely prohibiting the manufacture of alcohol for any and every purpose including its use for medicinal, scientific, mechanical purposes and its use in the arts, as well as its use as a beverage was upheld in Cureton vs. State, 135 Ga. 660, 49 L. R. A. (N. S.) 182, *Inter alia.*

"It was held that the exercise of the police power of the state in prohibiting the manufacture and sale of intoxicating liquors is not invalid, because of the incidental effects upon the property, such as a brewery and its fixtures, resulting from the inability of the owners to adjust their old business to the new law.

"'The law does not take or damage their property for the use of the public, but only prevents them from taking or damaging the public for their use.' It is not a privilege or immunity of a citizen of the United States to manufacture or sell intoxicating liquors within the borders of a state, in spite of the will of such state, expressed through its legislature. * * *

"The citizen and the use of his property are subject to the legitimate exercise of the police power of the state to prevent injury to the public." Atlantic Coast Line R. Co. vs. State, 135 Ga. 545, 32 L. R. A. (N. S.) 20.

This case was dismissed May 12th, 1913, by the Supreme Court of the United States on motion of counsel for plaintiff in error. Cureton vs. State, 229 U. S. 630.

Sale of Non-Intoxicating Liquors can be Prohibited.

In Mississippi a statute was passed prohibiting the sale of malt liquors. A non-alcoholic beverage "Poinsetta" composed of pure distilled water 90.45 per cent. the remainder 9.55 per cent. being solids derived from cereals. It contains 5.73 per cent. of malt and is sold as a beverage was manufactured in Tennessee. One Lynch agreed with the manufacturers for the exclusive right to sell the beverage in Hinds County, Mississippi, and for that right he was to pay $500 within five days of making the contract. He did not pay. Purity Extract Co. sued to recover. Lynch defended upon the ground of illegality to sell. His defense was sustained. By writ of error the case was taken to the Supreme Court of the United States where the statute was upheld. The latter court by Justice Hughes said:

"That the opinion is extensively held that a general prohibition of the sale of malt liquors, whether intoxicating or not, is a necessary means to the suppression of the trade in intoxicants, sufficiently appears from the legislation of other States and the decision of the Courts in its construction. * * * We cannot say there is no basis for this widespread conviction.

"The State, within the limits we have stated, must decide upon the measures that are needful for the protection of the people, and having regard to the artifices which are used to promote the sale of intoxicants under the guise of innocent beverages, it would constitute an unwarrantable departure from accepted principle to hold that the prohibition of the sale of all malt liquors, including the beverage in question, was beyond its reserved power." (Dec. 2, 1912.) Purity Extract Co. vs. Lynch, 226 U. S. 192, 204-5.

Discriminatory Statute Upheld.

In Rippey vs. Texas, 193 U. S. 504, 509, it was held that a statute of Texas which discriminates in favor of those who vote for prohibition does not infringe the Constitution of the United States.

The State has power to prohibit the sale of intoxicating liquors altogether, if it sees fit, and that being so it has power to prohibit it conditionally.

No doubt a legislature could make it a crime to purchase intoxicants and punish it as such. Dan Lott vs. U. S. 205 Fed. 28, 46 L. R. A. (N. S.) 409.

In the United States there is a dual government, Federal and State—each supreme in its own sphere. There is likewise a dual allegiance. The Constitution of the United States, and the laws and treaties thereunder as interpreted by the Supreme Court of the United States, are the supreme law of the land. This is limited in its scope and does not in any way control or interfere with the powers reserved to the States and the people of the States. Within its territory the State power reaches everything not surrendered to the national government. Gibbons vs. Ogden, 9 Wheat 1, 203. The States therefore have had primarily to deal with the alcoholic problem thus far. There may be said to be seven methods of legally dealing with the evil. 1. Unrestricted manufacture, use and sale; 2. Low license; 3. High license; 4. Local option; 5. State prohibition; 6. National prohibition and 7. International prohibition.

The Federal Government has been concerned in the problem in the territory immediately under the control of the United States; in certain instances by treaty with foreign governments and with the Indian tribes; in obtaining revenue from it; and in the application of commerce clause of the Constitution.

In the License Cases, 5 How. 504, statutes of Massachusetts, Rhode Island and New Hampshire were upheld. In the Massachusetts and Rhode Island cases it was held that the license laws of the States applied to retail sales of foreign liquors, and that such laws are not repugnant to the Constitution of the United States. In the New Hampshire case it was held that a law of the State, the effect of which was to prohibit the sale, without license, of a barrel of gin purchased by the defendant in Massachusetts, and by him imported

into New Hampshire, was not repugnant to the Constitution or laws of the United States. No opinion of the Court was pronounced. Each justice gave his own reasons for affirming the decisions of the State courts. In effect Chief Justice Taney held that until Congress had exercised its powers over inter-state commerce, the states could exercise such power within their own borders.

The New Hampshire case was overruled in the original package case. Leisy vs. Hardin, 135 U. S. 100, which held in effect that all authority over interstate commerce had been given to Congress and that the States could not exercise such power except by the consent of Congress. Justices Gray, Harlan and Brewer dissented in a vigorous opinion.

Congress passed the Act of August 8, 1890, 26 Stat. 313, and thereby provided that liquors should not be exempt from the exercise of the police power of the states "by reason of being introduced therein in original packages or otherwise." In re, Raher, 140 U. S. 545, this statute was upheld and it was said that Congress had authorized the states to exercise police powers in relation to interstate commerce.

In Rhodes vs. Iowa, 170 U. S. 412, this act was held not to authorize the prosecution of a common carrier, its employe or agent for transporting imported liquors between two points in Iowa. It was said that the act did not apply to interstate shipment of intoxicating liquors until after the consummation of the shipment.

In Vance vs. Vandercook, 170 U. S. 438, it was held that the Act of August 8, 1890, gives a State the permission to prohibit the sale of intoxicating liquors in original packages.

To meet the various devices of the liquor trade to evade the various laws of the states, Congress passed the Webb-Kenyon act February 28, 1913. Its purpose is to subject intoxicating liquors sent by inter-state shipment to the law of a State upon arrival in a State.

Numerous decisions by the highest courts of the States have been rendered holding the law constitutional. It has twice been before the Supreme Court of the United States, but in both cases it was held in-applicable. The West Virginia cases were argued and submitted at the last term but the Court has ordered a re-argument and assigned them for February 21, 1916.

In the Minnesota Rate Cases, 230 U. S. 352, decided June 9, 1913, Mr. Justice Hughes in delivering the opinino of the Court *inter alia* said:

"If a State enactment imposes a *direct burden* upon interstate commerce, it must fall regardless of Federal legislation." * * * "It has repeatedly been declared by this court that as to those subjects which require a general system or uniformity of regulation the power of Congress is exclusive. In other matters admitting of diversity of treatment according to the special requirements of local conditions, the States may act within their respective jurisdictions until Congress sees fit to act; and when Congress does act, the exercise of its authority overrides all conflicting State legislation."

The same principle was laid down in Sligh vs. Kirkwood, 237 U. S. 52, decided April 5, 1915. It was there said a State may not "interfere with the supreme authority of Congress over the subject; while this is true, this court from the beginning has recognized that there may be legitimate action by the State in matter of local regulation. which the State may take until Congress exercises its authority upon the subject."

In the last two cases there was no dissenting opinion and while the language may not be as comprehensive as that of Mr. Chief Justice Taney in the license cases and the dissenting opinions of Justices Gray, Harlan and Brewer, heretofore referred to, yet there is great similarity in the reasoning.

One difficulty arises because the police power in its definition is not

"susceptible of circumstantial precision. It extends * * * not only to regulations which promote the public health, morals and safety, but to those which promote the public convenience or the general prosperity. * * * It is the most essential of powers, at times the most insistent, and always one of the least limitable of the powers of government." Eubank vs. Richmond, 226 U. S. 137; Sligh vs. Kirkwood, supra.

The police power resides inherently in the states and the people of the states and there is no limit to its exercise by the legislature of a state unless directly prohibited by its Constitution or by the Constitution and laws of the United States. Thus in State vs. Weiss, 84 Kans. 165, it was held that notwithstanding the provision in the Constitution of Kansas, excepting liquors for medicinal, mechanical and scientific purposes the legislature can nevertheless prohibit for those purposes.

Probably no court has more co-gently stated the reasons for the exercise of the power than the Supreme Court in Crowley vs. Christensen, *supra*.

"It is urged that, as the liquors are used as a beverage, and the injury following them if taken in excess, is voluntarily inflicted and is confined to the party offending, their sale should be without restrictions, the contention being that what a man shall drink, equally with what he shall eat, is not properly matter for legislation.

"There is in this position an assumption of a fact which does not exist, that when the liquors are taken in excess the injuries are confined to the party offending. The injury, it is true, first falls upon him in his health, which the habit undermines, in his morals, which it weakens, and in the self-abasement which it creates. But, as it leads to neglect of business and waste of property and general demoralization, it affects those who are immediately connected with and dependent upon him. By the general concurrence of opinion of every civilized and Christian community, there are few sources of crime and misery to society equal to the dram shop, where intoxicating liquors, in small quantities, to be drunk at the time, are sold indiscriminately to all parties applying.

"The statistics of every State show a greater amount of crime and misery attributable to the use of ardent spirits obtained at these retail liquor saloons than to any other source. * * *

"It is a question of public expediency and public morality, and not of federal law. The police power of the State is fully competent to regulate the business—to mitigate its evils or to suppress it entirely. There is no inherent right in a citizen to thus sell intoxicating liquors by retail; it is not a privilege of a citizen of the State or of a citizen of the United States. As it is a business attended with danger to the community it may, as already said, be entirely prohibited, or be permitted under such conditions as will limit to the utmost its evils. The manner and extent of regulation rest in the discretion of the governing authority. * * * It is a matter of legislative will only."

Everywhere in this country there is either regulation or prohibition of the liquor traffic. The constitutions and statutes of the states define their attitude toward it. In its nature it is violator of the law. There are few persons, if any, in the business who hold the law sacred. It is guilty of the grossest adulterations and frauds and refuses to be regulated. As soon as the people know the truth about alcohol popular sentiment will crystalize into national constitutional law which co-operating with the exercise of the police powers of the states will destroy the traffic. The permanency and stability of such law will depend largely upon the education of the citizens of the Republic. A prohibition amendment to the Federal Constitution is the next logical step by the national government. It is apparent that the traffic can not much longer be depended upon to furnish revenue. The production of distilled spirits for fiscal year 1914, was 174,611,645 agllons; for 1915, it was 132,134,152.2; a decrease of 42,477,492.8 gallons. But that is not more significant than other data in the report of the Commissioner of Internal Revenue, given to the public December 13, 1915. On page 49, said report shows that receipts from distilled spirits from July 1, 1914, to

September 30, 1914, were $44,299,381.33; for the same period this year they were $33,155,406.20; the decrease is $11,143,975.13. At the same rate the revenue from such source would reach the vanishing point in less than three years.

Compensation.

In determining the relation of law to the traffic, the question of compensation to those who have their money invested and who by reason of prohibition suffer loss or depreciation of property, is insistently urged and must be met. If, however, the legislative will determine that the public health, morals, safety, convenience or general prosperity require the prohibition of the liquor traffic compensation is not a matter of legal right. For another reason this is also true. A license to engage in the business is merely a personal permit and therefore the authority which granted the permission has the legal right to withdraw it. The person applying obtains his license upon the implied condition, and thus, if he makes an investment in the business he does so subject to the condition. Otherwise there would be endless confusion. He takes his chance and having taken it he cannot complain. The principle is authoritatively stated in the case of Thompson vs. Kentucky, 209 U. S. 340, 346, by Justice McKenna who in delivering the opinion of the Court said:

"It is the province of the courts to interpret the laws of the State, and he who acts under them must take his chance of being in accord with the final decision. And this is a hazard under every law and from which or the consequences of which we know of no security."

EXOPHTHALMIC GOITER: ACCESSORY THYROID.

From the Surgical Clinic of

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Exophthalmic Goiter.

History: Female, single, thirty years old, enters hospital because of a tumor in the region of the thyroid and extreme nervousness.

About four years ago she first noticed an enlargement in the thyroid region which has steadily increased in size. With the growth of the tumor she has developed certain nervous phenomena. She says she feels "all of a tremble"—she "cannot control her nerves"— on the least exertion she has palpitation of the heart. She has noticed that during the past year there has been a change in the appearance of the eyes—there is marked prominence of the eyeball. She sweats easily and has some falling of the hair. Menstruation somewhat irregular.

Examination: Patient shows a marked enlargement of the thyroid more pronounced on the left side.

There is present a moderate exophthalmos with an apparent widening of the palpebral opening (Stellwag) and a failure of the eyeball to move downward with the upper lid in looking downward (Graefe).

The pulse is abnormally rapid, of high tension and extremely irritable.

There is marked muscular tremor of the hands.

Temperature 98 4/5, Pulse 120, Respiration 28.

Urine Sp. Gr. 1018, otherwise normal.

Comment: There are certain facts about the thyroid gland which have an important bearing on its pathology.

First: It is a ductless gland, the secretion being delivered by short lymph spaces into the veins throughout the gland.

Second: This internal secretion is indispensable to the animla economy; for if the secretion be considerably increased or diminished grave pathological conditions result. If *total* extirpation of the gland be done, myxedema follows—a condition characterized by the deposition of mucoid fluid in the subcutaneous tissues, especially in the eyelids, lips and hands. This excess of mucin in the system is accompanied by mental dullness, sluggish movements and unsteady gait.

When the gland is congenitally absent there is present a condition of Cretinism or stunted growth—physically, mentally, and sexually. On the other hand, if the secretion of the gland be excessive, we have a condition known as Graves Disease (exophthalmic goiter) characterized by over activity of the heart, exophthalmos and general organic disturbance.

The essential element of the thyroid secretion appears to be iodin, the amount varying in inverse ratio to the amount of hyperplasia.—It is on this physiological fact that the time-honored iodine treatment of goiter is founded—it is a question whether a patient receives anything more than organic iodine even in the administration of Thyroid Extract Tablets.

Third: The anatomical relations of the thyroid explains many of the phenomena associated with enlargement of the gland. (Fig. I). Its two lobes connected by an isthmus lies astride the upper part of the trachea and larynx, to which structures its capsule is adherent. Thus a thyroid tumor rises and falls with the larynx in deglutition.

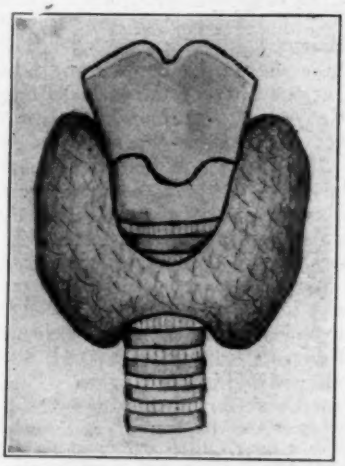

Fig. I. Relations of the lobes and isthmus of the thyroid to the trachea.

It is obvious that the enlarged thyroid may cause *dyspnoea* by pressure on the trachea; *dysphagia* by pressure against the pharynx and esophagus; *hoarseness* or *loss of voice* by pressure on the recurrent laryngeal nerve; *dilitation of the pupil* by pressure on the sympathetic nerve, affecting the pupil of the same side; *cerebral congestion* from pressure on the internal jugular vein.

Thus *mechanical pressure* explains many of the phenomena associated with enlarged thyroid.

Classification of Goiter: There is no clinic in the world that has contributed more to the modern pathology and treatment of Goiter than the Mayo clinic. Plummer, Wilson and the Mayos have grouped and analysed their vast material so that we are now able to correlate the symtomatology with the pathological findings.—The macroscopical appearance of the specimen is enough to predicate the clinical history.

The classification of goiter suggested by Plummer and verified by Wilson and Mayo is now the accepted standard—all goiters are divided into:

I. Toxic Goiter with exophthalmos.
II. Toxic Goiter without exophthalmos.
III. Atoxic Goiter (simple goiters).

In the case before us we are dealing with a toxic goiter with exophthalmos. These goiters present a sharp clinical picture—the hypersecretion has become a toxin acting on the central nervous and vascular systems, hence the train of symptoms so beautifully demonstrated in this case—the muscular tremor, mental irritability, disturbances in function of the skin, tachycardia, exophthalmos,—all the result of thyroid toxemia. Most of

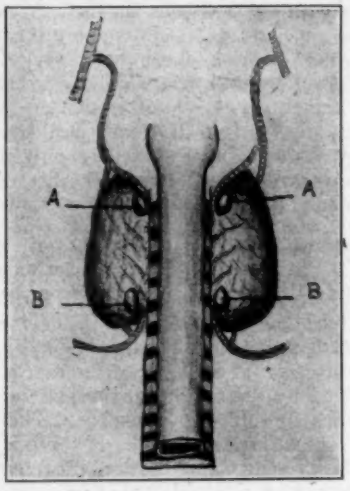

Fig. II. Posterior view of thyroid gland and the relation of the parathyroids.
A.A. Superior parathyroids.
B.B. Inferior parathyroids.

these cases grow progressively worse and show a tendency to acute exacerbations.

It is a clinical fact that if the disease develops suddenly, the course is more grave than when it begins slowly.

Operation: The best incision for goiter is the "collar incision" both for satisfactory exposure and cosmetic result. The incision passes through the skin and platysma—after dissecting up the skin flap to secure a wide exposure, we find the sterno-hyoid and sterno-thyroid muscles flattened out over the tumor. These muscles are divided transversely and the capsule of the tumor exposed by dissection with the finger—if the sterno-mastoid muscle impedes the operation it may also be divided transversely and sutured before closing the wound. The arteries at the upper and lower poles (superior and inferior thyroid) are now ligated, the isthmus ligated and incised and the diseased lobe removed—although this gland is the most vascular in the body, there has been little blood lost.

In peeling out the gland posteriorly we are extremely careful to avoid damage to the *parathyroid glands* which lie on the posterior capsule (Fig. II)—We prefer to leave a portion of the posterior capsule to insure their safety—for these parathyroid glands have just as distinct a function as the thyroid gland, and if their function be suppressed, there follows a condition of tetany, and sometimes death—The tetany is of a peculiar character manifest by spasmodic contraction of the masseter muscle (spasmodic lockjaw) and spasmodic contraction of certain muscles of the hand giving the characteristic so called "obstetric hand."

In one case we recall there was some disturbance of these glands brought about by operation in which the "obstetric hand" phenomena was most pronounced. By the use of parathyroid feeding the acute symptoms were controlled.

The anesthesia in these cases is a most important consideration—We prefer to twilight these patients and operate under local anaesthesia, or very light ether.

This patient was given morphine and hyoscine in sufficient quantity to produce sound sleep, and the field was locally injected with novocaine—After these patients awake from their narcosis, they have no memory of the operation.

Comment on Treatment: There is a very distinct rule of treatment for the exophthalmic cases.

I. While these patients are unqestionably benefited by surgical treatment—removal of a large part of the hypersecreting gland—they should never be operated during the periods of acute exacerbation or in cases showing advanced cardiac changes. To operate at such a time is only to add insult to injury and to precipitate a final and fatal catastrophy.

Excision of the gland belongs to the period of quiescence.

II. During the periods of acute exacerbation the patient should be put to bed and absolute rest for mind and body insisted upon—An ice bag over the heart and free elimination promoted from bowels and kidneys to get rid of the toxins gives the patient his best chance to recover physiological equilibrium.

Rest and elimination are the indications for the acute cases.

III. In these cases where dilatation of the heart or degenerative changes preclude major surgical procedures, treatment should be confined to ligation of the superior thyroid arteries or injection of boiling water according to the plan advocated by Porter.

Accessory Thyroid.

History: Patient, female, unmarried, twenty years old, entered the medical service of the hospital because

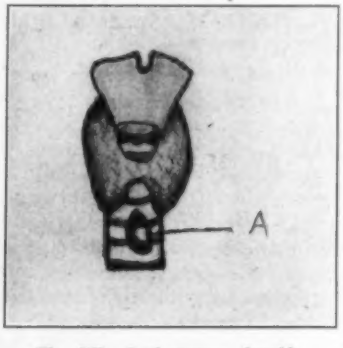

Fig. III. A. Accessory thyroid.
Its relation as found at operation.

of pain in the back of the head, general nervousness and a lump on the anterior surface of the neck just above the sternal notch.

She was well until three years ago, when she first noticed a swelling in the neck. Since then she suffered from dyspnœa, pain in neck, palpitation of the heart on the least excitement, constipation, night sweats and indigestion. All these symptoms are worse during menstruation. Urine: sp. gr. 1010, large amount of triple phosphates, otherwise negative. Blood pressure, 110; pulse, 100-120.

Examination: Patient is quite excitable, there is muscular tremor, but no exophthalmos. Just above the

suprasternal notch there is a well-defined mass about the size of a robbin's egg. It is freely moveable and not connected with the thyroid gland or its isthmus. (Fig. III.).

Comment: The symptomatology here is very suggestive of a toxic non-exophthalmic goiter, yet there is no enlargement of the thyroid gland proper.

How can we account for these symptoms of thyrotoxicosis except on the supposition that the mass above the sternal notch is an accessory thyroid which has undergone hyperplasia and thus become a competent cause of the toxemia.

We know that in the development of the thyroid small isolated masses of thyroid tissue may become detached and finally locate anywhere between the arch of the aorta and the hyoid bone.

These accessory thyroids have been recognized at the base of the tongue, commonly between the hyoid bone and the isthmus of the gland, and about the lateral lobes of the thyroid.

Less frequently they are found below the level of the thyroid as far as the arch of the aorta.

They are subject to the same pathologic changes as the normal thyroid and undoubtedly contribute their share of the thyroid secretion. This explains those cases of total extirpation of the thyroid gland unattended by subsequent myxedema. It is therefore rational to regard this suprasternal mass as an enlarged accessory thyroid and conclude that its extirpation will be followed by a cessation of the toxic symptoms.

Operation: We shall make a longitudinal incision over the tumor down to its capsule; as we dissect posteriorly the mass is found to be adherent to the trachea; there is no connection, however, with the thyroid isthmus, and it seems to receive its blood supply from branches of the inferior thyroid artery. After ligating these vessels the tumor is easily shelled out.

We close the wound after inserting a small drain at the lower angle. The tumor on section has the macroscopic appearance of thyroid tissue.

Subsequent History: The patient made an uneventful recovery and was discharged from the hospital relieved of the toxic phenomena.

394 Clinton Avenue.

SWOLLEN JAWS.

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It has been my observation that until within recent years physicians have paid scant attention to the condition of the teeth and gums of patients during illness and at the time of operative procedure.

The mouth hygiene campaign of dentists is having good results in calling attention to the importance of a healthy mouth as a contributing factor to good results.

The dentists are making heroic efforts to cure pyorrhea alveolaris (Riggs disease). The emetin treatment is yielding excellent results in arresting the disease in its incipient stage, improving the advanced case and, according to many dental practitioners, absolutely curing many apparently hopeless cases.

When a patient has advanced pyorrhea the teeth are loose, gums inflamed and spongy, and each tooth is discharging its bit of pus from the cervical border. A few such teeth in one mouth can, in a short time, contribute a respectable amount of pus which goes into the patient's stomach and has the effect of a small amount of slow poison constantly administered. Does not this interfere with the physician's treatment for other conditions?

I believe the majority of physicians are alive to the fact that an unhealthy mouth interferes seriously with the success of general treatment. Still there are many who never think to look inside the mouth for possible abnormal conditions, and this oversight in certain cases leads to a failure of all efforts to effect a cure.

I would call attention to the ordinary alveolar abscess, particularly in the lower jaw. An abscess forming at the apex of the root of a tooth, if it cannot discharge through the root canals of the tooth, will seek the point of least resistance, point on the gum, or work through the bone to the soft tissues outside and cause the jaw to swell. The extraction breaks up the abscess and gives vent to the pus and gas. Post-operative treatment—syringing, not packing—keeps the socket open and usually the swelling disappears and the wound heals. If necrosis is present, that is another matter. If the tooth is too badly decayed to be made healthy, and filled, by dental treatment, or if there are only useless roots of a tooth or teeth, extraction is the first step.

But so many times it happens that a patient with a swollen jaw will call on a physician who immediately applies a poultice to "bring it to a head." Or, if the abscess has pointed on the outside of the jaw, he "scrapes the bone" and treats entirely through the outside opening. He does not look inside the mouth for diseased teeth as a probable cause.

If the abscess sac at the apex of the root is not reached and destroyed by the curetting, the patient still has his abscess which continues to discharge. There is a "running sore" which does not heal. If there is no necrosis the extraction of the tooth or root will remove the cause and a cure can be effected.

The following case will serve as an illustration:

A boy of twelve years was referred to me by his dentist to have a decayed and aching left lower molar extracted. The dentist suggested that the roots of a right lower molar also be removed. He believed them to be the cause of a pus discharging opening at that side. The roots were taken out and in twenty-four hours the discharge ceased and the external opening had closed.

The mother told me that the boy had been operated on three times at a hospital, the last time six weeks before. The discharge had never stopped. The surgeons worked from the outside. As far as the mother of the patient knew no one had looked inside the mouth or suggsted the possibility of a tooth being the cause of the condition. The dentist had been consulted about the tooth on the left side, with no idea of having the right side treated.

A swollen jaw in the majority of cases is caused by an abscessed tooth or roots and calls for the removal by extraction as the first step in the treatment.

There are some medical men, and dentists, who still cling to the idea that a tooth should not be extracted while the jaw is swollen. The same man would remove a splinter from an inflamed and swollen finger before he would expect it to begin improving.

44 Court Street.

Tuberculous cystitis is characterized in the early stages by polyuria and repeated small hematurias; frequent micturition, at first without pain, afterwards with severe pain in the urethra and at the point of the penis during and after micturition; slight pyuria in acid urine, with tubercle bacilli, and evidence of tuberculosis elsewhere, probably in one or both kidneys.

THE DIAGNOSTIC LABORATORY.

CONDUCTED BY CHESTER D. STONE, M.D.
Brooklyn, N. Y.

It is the purpose of this department each month to place before the busy practitioner abstracts from the literature on clinical laboratory methods under the general headings: Uranalysis, Bacteriology, Pathology, Parasitology, Serology, Physiology, Experimental, and Miscellaneous. A medical question box also will be established, in which queries from readers will be printed and answered.

Even though the reader may not be versed in laboratory methods, a knowledge of the latest tests and how properly to collect and send material for examination may save many cases. There are no short cuts to diagnosis. Even with clinical aids and modern laboratory methods, the true nature of an illness is often puzzling. Without correct diagnosis treatment fails. The physician who attempts to practise medicine without laboratory assistance is unjust to his patients, for he has at his command a most useful diagnostic adjuvant.

Clinical Laboratory.

Numerous fat spherules (Fettkörnchenkugeln) when found in sputum are of especial value in diagnosing carcinoma of the lungs.—(*Lenhartz*, 1913.)

Pathology.

A new method for the rapid fixation of tissues is as follows:

Formalin, 10%	2 hrs.	
Alcohol, 80%	2 hrs.	
Alcohol, 95%	2 hrs.	
Acetone	2 hrs.	
Chloroform	1 hr.	
Chloroform	1 hr.	melting point
Paraffin	30 min.	46 - 48
Paraffin	30 min.	50 - 52
Paraffin	30 min.	50 - 52

Block, remove paraffin with either xylol, ether or chloroform. Cut block on slant.—(*Exchange.*)

Mounting of Specimens.—Fred D. Weidman states that gross morbid museum specimens when mounted in the usual way suffer greatly by handling has resulted in the following: where the material is soft and will not stand pressure it is arranged face downward on a smooth-soaped surface. A wall is built around it enclosing a space about one cm. larger than the inside dimensions of the face of the container, which must be rectangular for the proper use of this method, and the inside of the walls are also soaped. Plaster of Paris was then poured over the specimen to a depth equal to the narrowest antero-posterior dimensions of the container. When the plaster has hardened, the walls are torn down and the plaster with the contained specimen is lifted from the glass. When dry slip into the container and cover with mounting fluid. Do not seal until bubbles cease to accumulate. (*Med. Rec.*)

Uranalysis.

It is well to bear in mind that heat and nitric acid, alone and combined, with the contact test, remain the reliable means for the recognition of albumin in the urine. All other tests are objectionable in some respects, and the findings with them are subject to misinterpretation. Tests for albumin should be made, when possible, with fresh urine. Some send urine, preserved with boric acid to a central laboratory. The samples which contain bacterial growth are heated with strong alkalies, filtered, and tested with heat and nitric acid. The alkali dissolves the bacterial proteins causing the filtrate to give the albumin test even though none was there when it was passed. This accounts for the high percentage of albumin reported by some laboratories. (*Jour. Lab and Clin. Med.*, Oct., 1915, p. 55).

All urines reducing Fehling's or Haines' solutions should be checked by testing with Nylander's solution, which is

Bismuth Subnitrate	2.0
Potassium Sodium Tartrate	4.0
Sodium Hydroxide, 8%	100.00

For testing, add one part of the reagent to nine parts urine. Heat the upper layer. A black clouding within three minutes indicates sugar.

In a suspicious case the failure to find tubercle bacilli in the urine is not conclusive, as renal tuberculosis may exist without discharging bacilli into the urine, or in too small numbers for detection.

In the early diagnosis of genito-urinary tuberculosis consider Colombino's sign, viz., deformed leucocytes and erythrocytes in urinary sediment. Two cases are reported.—(*Jour. d'urol.*, Sept. 4, '15.)

Bacteriology.

A Method of Sterilizing Sputum Before Examination.—Don. M. Griswold says it was found that sputum autoclaved at 120° C. and twenty pounds pressure for twenty minutes divided into two layers; an upper thin, watery and a lower resembling boiled white of egg, which included many of the bacteria of the sputum. This coagulated material was about the consistency of butter and could be quickly spread into comparatively even smears. The staining property of the tubercle bacillus is unaltered and it retains the carbolfuchsin in the presence of 15% nitric acid or 3% HCl—alcohol. The smears are fixed and stained in the usual way with carbolfuchsin. (*Jour. Lab and Clin. Med.*, Dec., 1915, p. 189.)

Eurich-Koslow's Method for T. B.

A quantity of sputum is shaken up with a strong solution of sodium hypochlorite aa. It is then diluted with a volume of distilled water approximately ten times that of the sodium hypochlorite and again shaken for a few minutes. Finally there is added a mixture of equal parts of ether and acetone equal volume of each to that of the water. It is shaken once more for a few seconds and the whole allowed to stand. In a few minutes the contents will be found to separate into three layers, the middle layer, appearing as a more or less dense white ring, will contain all the tubercle bacilli that may be present in the sputum, and can be drawn off with ease by means of a pipette fitted with a teat. The mixture should be diluted, with distilled, not with tap water, as the latter may contain acid fast bacilli.

Immediate stain for spirochætæ pallida.

Distilled Water	10 c.c.
Glycerine	0.5%
Giemsa Stain	10-12 Gtt.

Heat to boiling; pour on slide; allow to act for from 3 to 5 minutes; wash in water; dry and examine.

Gastric.

The constant occurrence of pus in fetid or non-fetid stomach contents is generally diagnostic of carcinoma. Occasionally it may come from a ruptured perigastric abscess, in which case mucus is usually present.

The values found after a test meal often do not give a true idea of the gastric function after an ordinary meal; the HCl values especially are too low, owing to deficient excitation to secretion. Therefore it is advisable to test after ingestion of a regular meal.—(*Brooks*, 1914.)

Gastric.

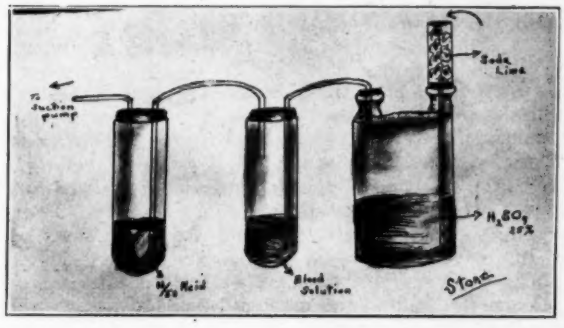
The facts that hyperacidity is synonymous with gastric ulcer, and achlorhydria and the presence of lactic acid indicates carcinoma, are being gradually abandoned.

Hyperacidity generally accompanies decrease of motility; if it is associated with increased motility and rapid emptying of the stomach it may be suspected that hyperacidity is due to carcinomatous ulcer.

There is no need to test gastric contents for pepsin, pepsinogen and peptones if HCl is present. (Brooks, *Clin. Micr.*)

Blood and Urine, Nitrogen and Urea.

An easy and efficient method of determining urea and urea nitrogen has been solved by the use of the soy bean. The apparatus may or may not have the Wolf bottle as shown. In case it is not used the drying tube is attached to the blood solution tube.



Apparatus for determination of urea and urea nitrogen by the use of the soy bean.

Urine.—Take 5 c.c. urine diluted ten times, add one c.c. amyl alcohol, one c.c. 15% soy bean* close and let stand 15 minutes to 20° C, or 3 minutes at 50° C. The tube marked N/50 Acid contains 25 c.c. 50th normal HCl. Areate for one half minute after reaction is complete, quickly open tube and add dry potassium carbonate 4-5 grams, close and areate 15 minutes when all the ammonia gas will have been carried over into the acid. Titrate the acid solution to neutrality with N/50 NaOH. indicator one drop 1% sodium alizarin sulphonate solution. The number of c.c. of N/50 acid neutralized by the ammonia is multiplied by .12 to give the per cent. urea, or by .056 to give per cent. urea nitrogen.

Blood.—Take 5 c.c. fresh drawn blood in one c.c. 5% citrate solution and add a few drops amyl alcohol and one c.c. 10% solution soy bean. Proceed as for urine except 10 c.c. of acid are used and .012 is multiplied for per cent. urea or .0056 for per cent. urea nitrogen.

Parasitology.

For suspected intestinal parasites take equal parts of HCl and ether, place in a test tube with feces and shake. Eggs will settle to the bottom of the tube.

Serology.

Jenkins blood culture media is

Na.Cl.	.3
Ammonium Oxalate	.2
Water	100.

Lawson states that the malarial parasite is not intracellular. It becomes attached to the erythrocytes at certain points, "mounds," which the parasite tends to surround with pseudopods.—(*Jour. Exp. Med.* 1915 (2) 584.)

* A convenient preparation of the soy bean known as Arlcourease is prepared by the Arlington Chemical Company, Yonkers, N. Y.

Serology.

Harlow-Skelton stain, excellent for malaria.

I. Eosin yellowish water soluble Grübler 1 gram.
Absolute methyl alcohol Merck 100 c.c.
(One minute or longer.)
Transfer without washing to II.

II. Ehrlich's medicinal methylene blue Grübler 1 gram.
Absolute methyl alcohol 100 c.c.
(Thirty seconds to one minute.)
Wash in water.
If too blue add one drop sodium hydroxide 30%.
If too red add one drop sodium hydroxide 30%.

Keep each solution separate in wide mouth ground stoppered bottles. Moisture causes the stain to deteriorate. If cell nuclei fail to stain blue, one drop of 20% potassium hydroxide may be added to the blue solution. If the erythrocytes stain purple add one drop glacial acetic acid to blue solution. When solutions get low replenish with absolute methyl alcohol. (*J. A. M. A.*) LII., p. 768, 1100, LII, p. 1910.)

The Community Laboratory.

The New York *Medical Journal*, Dec. 4, 1915, says physicians realize the great value to them in their daily work of laboratory examinations. Why then are they not more extensively employed?

One of the first of several answers is the expense of a laboratory outfit. Granting that the recent graduate can purchase the outfit, the chances are that he will not be competent to do the work that may arise. Then comes the time when practice grows sufficiently large to render laboratory work out of the question; one person cannot carry on both activities. Consequently such work must be sent to a specialist.

A method well worth considering is that adopted in Waterloo, Iowa, where the local medical society has established at its own expense a competent laboratory and has invited a laboratory specialist to take charge. The society pays all expenses and gives the director a guarantee of a minimum income.

Such an undertaking seems not only feasible but advisable in any town where there is a medical society. The society's laboratory could become a regular depository for medical information. The plan is capable of great development.

62 Pierrepont Street.

Twin Ectopic Pregnancy.

George W. Johnson, reporting a case, calls attention to the points of interest: (1) That it was one of *twin* ectopic pregnancy, and (2) that no vaginal hemorrhage occurred until after the completion of the operation, although complete rupture into the peritoneal cavity had taken place.

The patient, 41, married 14 years, consulted for abdominal pain of four days' duration. The pain was above the pubes on both sides and was colicky in character. Pulse 76 and temperature 98.2° F. No vomiting and no obvious physical signs. Menstruation, previously regular, had ceased ten weeks before "as the result of a severe chill." The patient had never been pregnant. There were no changes in the breasts and no signs of pregnancy, which was held to be out of the question, no vaginal discharge or hemorrhage.

Ectopic pregnancy was diagnosed and laparotomy was performed. The left tube was ruptured and bleeding and the right tube was congested and closed at the fimbriated end by a thick deposit of lymph. Two fetuses of about ten weeks were found in the peritoneal cavity, with a single large placenta and a quantity of blood clot. The operation was completed as usual and convalescence was uneventful.—(*Lancet*, Oct. 16, 1915.)

VENTILATION OF THE EUSTACHIAN TUBES.

HAROLD HAYS, M. D., F. A. C. S.,
ADJUNCT PROFESSOR OF LARYNGOLOGY, NEW YORK POLYCLINIC MEDICAL SCHOOL AND HOSPITAL.
New York.

As normal hearing depends upon the proper air pressure being maintained within the middle ear cavity, it is essential that the eustachian tube should be sufficiently patent to allow the entrance of a regulated amount of air constantly.

It is surprising how little attention is paid to the ventilation of the eustachian tubes—by that I mean, the passage of the proper amount of air over the mucous membranes of the small passage. For one to be able to appreciate the importance of the subject, he has only to realize the intense discomfort he feels when the eustachian tubes are closed as the result of a bad cold. At such a time either too much air enters the middle ear from violent blowing of the nose or no air can be forced into the ears at all. In either instance the ears feel clogged.

In order to maintain proper ventilation of the eustachian tubes, the nasal chambers and nasopharynx must be entirely freed from obstructions of all kinds. A minute adhesion in the fossa of Rosenmuller, which interferes with the automatic action of the tubal muscles, may cause as much trouble as a markedly deviated septum. In investigating the subject of pathological nose and throat conditions in cases of progressive deafness some years ago, I was not only impressed with the definite obstructions present in many cases, but also with the marked relief to these patients which attended proper intranasal and nasopharyngeal treatment. In many instances obstructions were not sufficient to cause interference with breathing, but were no doubt the cause of improper tubal ventilation. Sometimes the obstruction was on the opposite side to the ear in which the hearing was diminished. Within the past two months I have treated a young woman whose hearing was so bad that she was unable to continue her work. Both eustachian tubes were obstructed and I felt it unwise to try treatment on the ears until a deviation of the septum was corrected. This young woman breathed freely through her nose and had very few evidences of nasal obstruction. Within a few weeks after the submucous resection her hearing was markedly improved without any treatment to her ears whatsoever.

11 West 81st Street.

Correspondence

Dangerous Nomenclature.

To the Editor of THE MEDICAL TIMES:

The interesting symposium relating to the subject of alcohol in the current MEDICAL TIMES bring up again the question of a danger lurking in the very benign sounding name of wood alcohol. Very few people are afraid of the name "wood" and fewer still perhaps are afraid of the word "alcohol." Consequently this violent poison is frequently drunk by people who would not touch it if a name with disagreeable associations had been applied. Note the extent to which the public spurns a great valuable food supply because it has been given the name "dog-fish." If wood alcohol is used in Jamaica ginger and in Florida water, it must be doing a great deal of damage among the Indians in certain parts of the country where the use of alcohol is forbidden to Indians. Traders tell me that Indians buy Jamaica ginger and Florida water in large quantities for drinking purposes.

A number of dangerous names have their own death rate—for instance, "catarrhal appendicitis," a rather harmless sounding appellation. Those of us who have occasion to operate find cases of gangrene, and perforation of the appendix, and all sorts of complications under a diagnosis which had been applied for the purpose of calming the fears of a family. It avoids the jolt of discharge of a physician radical enough to suggest that operation should be performed in cases of acute appendicitis as soon as the diagnosis has been made. I have run across many such instances in consultation work. Frequently a physician who had proposed immediate operation was supplanted by someone else who made a diagnosis of catarrhal appendicitis, and the latter was chosen as the physician most pleasing to the family, even though the appendix burst its tire under the stress of his procrastination.

Another fatal name is "gonorrhoeal rheumatism." Under this diagnosis depleting measures are often applied in the way of treatment, when a patient's whole chance depends upon the exactly opposite plan of stimulating to a point which allows him to overcome the gonococcus by means of his own defense machinery.

ROBERT T. MORRIS.

Dr. Gould's Cures By Spectacles.

To the Editor of THE MEDICAL TIMES:

In 1876 great interest was aroused when Roosa[1] wrote that astigmatism was a cause of crusty, sore eyelids, and Stevens[2] stated that disorder of the eyes caused disturbances of the nervous system. These scientific writers inspired many ingenious followers. Foremost among these was Dr. George M. Gould, who again and again wrote up his conquest of diseases by spectacles. In 1876 Dr. Gould seemed to have little to do with the discovery of the principle that spectacles cure eye disease or general disease.

In THE MEDICAL TIMES, January, 1916, Dr. Gould says:

"After 45, many secondary and mental diseases have been set up, so that cure is less certain. Headache and sick headache soon bring in their train a score of other symptoms and diseases which the neurologists, alienists, and surgeons, and sanitarium doctors foolishly suppose are without cause and which they treat forever without curing. These afflictions at one or two or three removes are most of the pelvic diseases, especially of women, many nutritional diseases, practically all so-called neuritises, and perhaps three-fourths of all nervous and mental diseases. It would take a good half hour to enumerate them."

The preceding may mean enough material already saved up to bring out every month or two during the doctor's lifetime another disease cured by spectacles.

Apparently from the inside Dr. Gould charges the medical profession with what all physician-haters like to hear about doctors. Presently the gratified "seers," oculists and the ostracized in general will be telling in meeting what Dr. Gould, the noted oculist, voluminous ophthalmological writer and medical lexicographer, says about the failures of physicians. The doctor's new, numerous and influential friends will see to it that his pot is kept boiling for many moons to come.

Maybe Dr. Gould plans to finally announce his "15,000 or 20,000" successes as phychological experiments—faith cures wrought by spectacles.

N. B. JENKINS.

A Spring Suggestion.

To the Editor of THE MEDICAL TIMES:

"No generality is ever wholly true, not even this one," said a famous French writer; but we all know that at this time of the year one should be prudent as to his living.

In the days before Christ the ancients gave themselves better care physically in the spring, realizing it was the season when the human body was most enervated, and most susceptible to the ills of the flesh.

Then came the Christian era, when the Lenten season was made sacred, and man was trained for religious reasons to abstain from overeating, over-drinking and self-indulgence of all kinds.

The Jew in his religious belief was trained always to wash his hands before eating.

Thus it was that in olden times correct methods of living were established through religious teachings.

One is often tempted to ask whether the people of to-day ever try to live within their limitations. It would be well for the readers at this time of the year to take stock of their mental and physical forces, and ask themselves whether or not they are carrying too much steam.

Can we not run our engines on less fuel, and eliminate all alcohol from our diet for a period of three or four weeks in the spring—say during the Lenten season?

It is well for everyone to know his limitations and to take stock and find out if all the work he accomplishes each day is

References: [1], Int. Cong. Oph., 1876; [2], Tr. N. Y. Acad. Med., 1876, 2 S., ii, p. 122.

done on his own reserve strength, or if too much stimulant is assisting him to get through the day's work. This applies particularly to women whose nervous systems are more highly organized.

Tea, coffee, alcohol and many other things may be carried to an excess, and therefore I again suggest just at this time of the year to be moderate in all things, and thus prove to ourselves that our engines are in good condition.

G. CHASE.

Quinin and "Hahnemann's One Experimental Proof."

To the Editor of THE MEDICAL TIMES:

Dr. Jacobson has not entirely "read aright" my answer to his article, "Hahnemann's One Experimental Proof," as is evidenced by his reply appearing in a recent issue. My contention was that *Hahnemann did not base his great system of curative medicine upon "one experimental proof,"* but upon repeated and painstaking investigation extending over many years. The question as to the power of quinin to destroy the plasmodia when given in large doses was not the point at issue, and, like "the flowers that bloom in the spring," has nothing to do with the case.

Every doctor knows or should know the action of quinin upon the plasmodia, and I am no exception to the rule, but quite separate from its direct influence upon the malarial organism it is capable of producing symptoms *simulating certain cases of intermittent fever.* When the patient presents symptoms resembling those produced by the action of quinin on the healthy human body, this remedy is capable of curing in a dose or doses so small that any direct anti-parasitic action must be excluded. Natrum muriaticum, arsenicum, capsicum, eupatorium perfoliatum, lycopodium, etc., etc., etc., are all capable of acting in a similar manner. A *minute* dose of quinin will not cure intermittent fever unless the symptoms presented by the patient resemble those of the drug.

An expert homeopathic prescriber does not deny the so-called specific action of quinin on the plasmodia, but he believes that he can obtain better results in the great majority of cases by close differentiation of his remedies. He knows the poisonous action of quinin on the leucocytes, the ears, the eyes, etc., and prefers the system of Hahnemann. The rapidity with which a patient will recover after receiving the indicated remedy is often remarkable. The more skilful the homeopathic prescriber, the less often will he resort to quinin in material doses.

The following extract from a paper, "Therapeutic Reform," by W. M. Storar, L.R.C.P., L.R.C.S., Ed. (Mount Charles, Belfast), read before the Ulster Branch of the British Medical Association, April 5, 1905, may be of some additional interest. Mr. Storar starts out by decrying the tendency to therapeutic nihilism and then claims that we have at last discovered the *true law of cure.* A clear statement of Hahnemann's principles is presented, but no mention of Hahnemann or homeopathy appears. The only trouble with Mr. Storar is that he is over a hundred years too late. He may discover America next, who knows?

His paper cannot be given in full—only short extracts. He says: "As it is necessary to be brief we shall cursorily examine only seven remedies—antimony, belladonna, cinchona and quinin, ergot, cantharides, turpentine and arsenic." He prescribes these according to the law of similars and recommends small doses. It is his remarks upon cinchona and quinin which are of special interest to us, however:

"III...Cinchona and Quinin."

"Trousseau and Pidoux, quoting Bretonneau, say: 'Each day's observation proves that cinchona given in large doses to healthy persons causes in a great number of subjects a very marked febrile condition. The character of this fever, the time when it shows itself, vary in different individuals. There is often tinnitus aurium, deafness and a species of intoxication preceding the invasion of the fever, a slight shivering then occurs, a dry heat, accompanied by headache, succeeds these first symptoms, which gradually abate and end by sweat.' They go on to say that 'further doses exceedingly aggravate this fever, which becomes intermittent in type,' and they even suggest that many aggravated cases of ague, so-called, are really cases of chronic poisoning from cinchona.

"It is scarcely necessary to remind ourselves that, in spite of the recently discovered connection between malaria and active germs in the blood, quinin is still the most reliable remedy.

"Charcot says: 'Quinin perseveringly used is sometimes attended with the best results in relieving the vertigo and tinnitus of Menière's disease.' Dr. Stephen Mackenzie says he has seen many cases which corroborate this statement."—(Quain's Dictionary.)

If not in this "year of grace," yet within the lifetime of Dr. Jacobson and myself perhaps, the system introduced by Hahnemann, one of the two greatest physicians, will be universally recognized as the most efficient method of *medicinal* therapeutics and will take its proper place in the great field of medical science so long denied it through ignorance or prejudice.

We are physicians, Dr. Jacobson, looking for the *truth.* Let us accept it from any source. The time for bigotry has passed; let us get together for the good of the medical profession and for the benefit of mankind.

DANIEL E. S. COLEMAN, M.D.,
Professor of Materia Medica in New York Homeopathic Medical College.

A New Basis for the Regulation and the Economics of the Practice of Medicine.

It is frequently said that there are too many physicians—and too many poorly trained. The first part of this frequent statement has been challenged by Dr. O. V. Huffman, secretary of Long Island College Hospital, in an address before the Congress on Medical Education, Public Health and Medical Licensure in Chicago, February 7, and the latter part has been explained. Dr. Huffman has made an investigation of the daily average extent of sickness and disability among the population, and finds that 2½ per cent. of the population is constantly sick or disabled. This makes up the bulk of the work of the general practitioners; and this means a daily average of 20 patients for each of the 127,000 active practitioners in this country.

In addition to this 2½ per cent. who are sick, there is 69 per cent. who have some impairment of their health. These will provide a great field for specialists as soon as the economies in the situation are changed. The prohibitive fees charged by specialists prevent many of these people from getting proper treatment. There are really not enough doctors, for it is conceded that a doctor cannot on the average look after more than sixteen patients in eight work hours. There is plenty of work for the doctors, but there is not enough to pay them. The sick and disabled make a very poor source for the proper economic basis of providing for a medical profession. It is the sound and healthy producers who should pay the tax to support their sick and disabled brethren.

The Industrial Relations Commission computed that the 30,000,000 wage earners in this country pay $180,000,000 a year to the medical profession for treating them during their average of nine days of illness. Dr. Huffman finds the amount to be just about three times the aggregate annual income of the whole medical profession for treating the whole population. If the Industrial Relations Commission's figures were extended to the whole population, the average income of a doctor would be $4,500 a year instead of only $500 as at present. Dr. Huffman estimates that the average income of doctors could be trebled through having compulsory sickness insurance for all persons with incomes less than $1,200 a year. When the practice of medicine is put on this basis there will be no inducement to quacks any more than there is at present any inducement for a quack to enter the Army Medical Corps. There would be no reason to think the doctor would be overrun with work any more than he is in the Army Medical Corps. In fact, he would have enough to do and be paid enough to have a proper organization and equipment.

If a doctor were paid $4,000 a year for taking care of 2,000 persons, or an average of twenty patients a day, he would be better off than to do the same amount of work and actually collect only $2,000. Under compulsory sickness insurance he could be very active along the lines of preventive medicine. He could pamphleteer his clientele and he could refuse to carry anyone on his panel who refused to carry out his instructions. The insurance companies will not oppose this plan because it does not call for cash benefits. Dr. Huffman says that in his conversations with wage-earners he finds they do not particularly care to have the government provide cash benefits.

With such a scheme in operation, our present system of medical licentiation would be passé. We could revert to the former system of recognizing approved institutions. This is the method of foreign countries—the public being quite as well satisfied with an examination conducted by a university or college as with that of a State board. Our whole system would change. Doctors would ask to be paid for what they could *properly* do instead of competing as now to see how much they can do—and half of it for nothing. This plan for a revolution in the economics of the practice of medicine merits careful consideration by the medical profession.

Evisceration should be performed in cases of panophthalmitis. It is quite free from the risks of septic meningitis, due to infection of the optic nerve sheaths.

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A New Profession.

A new profession, if the vision of Professor Edward Devine, of the School of Philanthropy, comes true, seems destined to grow out of municipal and hospital social service. That is to say, it may yet happen that the work may be professionalized through State regulation, and licenses issued to engage in it after qualifying examinations. In its embryo forms social service has been hospitably received by progressive medical men. If it attains the final dignity of the professional hall-mark conferred by the State we shall welcome the advent of the new ally even more than we have its half-grown predecessor, which has proved a most lusty and wholesome youngster.

The Responsibilities of the Medical Profession.

The profession's responsibilities with respect to the maintenance of health and the prevention of and cure of disease involve three relationships. First, the profession is responsible to the community. This is a never ending responsibility. Second, it is responsible for the Department of Health. It is to blame if that Department falls into the hands of bureaucrats or doctrinaires. It ought to be distinctly understood that the Department is not responsible for the profession or for the profession's manner of organization, something which does not appear to have been well understood in the recent past by certain officials. It is responsible to, not for, the profession. Third, the profession is responsible to itself.

Having got these fundamentals well in mind we may say that in general those physicians who transgress the Department's rules with respect to hygiene and sanitation, which are reasonable and in accord with the best medical standards, also transgress professional standards and at the moment of their transgressions do not represent the profession. So to transgress is to suspend one's responsibility to the community. We may also say that to the extent that the Department of Health is used as a great machine by doctrinaires wherewith to impose upon the profession and the community sociological schemes foreign to the genius of American life, based upon the assumption that a decent wage will never be paid to every worker in this country, or upon the assumption that the wage system will never be done away with entirely—in other words, to the extent that the Health Department reflects solely philanthropic and feudal conceptions of community service and of industrial democracy, to just that extent does the Department itself transgress its responsibility to the profession, which in this country ought to set its face against socialization.

So against the sins of many individual physicians may be set the sins of this powerful machine itself, the Department of Health. The medical profession created it, and sometimes it acts like a Frankenstein.

Now just what do we mean by saying that the profession is responsible to itself? Let us think of medicine and of the profession as we think of the church invisible and the church visible. What we call the profession is like the church visible. When we say that it is responsible to itself, we mean that it is responsible for the maintenance of certain vital principles which have been crystallized through ages of experience, which are not technical but rather abstract in nature. If these principles are not maintained the profession ceases to be a profession and there is no excuse whatever for calling it that. Our greatest responsibility at the present time lies right here. We must see to it that socialization, the last ghastly device of our benevolent feudalism, comes not to pass, for in this sop to labor lie the seeds that shall destroy our standards and at the same time make justice to the worker more remote than ever. If the responsible officers of the Department of Health in any way foster the growth of this noxious weed they abuse the privileges and the duties of public medical administrators.

Profession or Trade?

The family physician, by reason of his relations with the whole or most of his patients' interests, and by reason of the trust and responsibility thus imposed upon him, developed a character which modern methods of practice apparently militate against. Nowadays patients are divided up, so to speak, among many practitioners, and their interests, and the practitioners' trusts and responsibilities, are likewise divided. This is the most regrettable fact in connection with the passing of the family physician. The economic factor in medical practice to-day also looms up in a manner never before observed. Large organizations of physicians are frankly committed to the development and application of economic policies about which they are more concerned than they are about character development, the things of the spirit, or even medical science. The medical profession, in fact, is in part reflecting certain unfortunate tendencies observable in American society in general. The doing of things involving actual self sacrifice does not hold any compelling fascination for many of us. We are not greatly interested in spiritual rewards; rewards have to be of a very tangible nature, computable in the coin of the realm. It is not untrue to say that for many there is no great fascination even in the doing of things for others not involving self sacrifice at all. It would seem that Mr. Brooks Adams, in his article "The American Democratic Ideal," in the *Yale Review* for

January, has correctly analyzed the individualistic philosophy underlying the average American's selfishness, and one may see in it elements which physicians have assimilated and which have much to do in stimulating their springs of action. Adams claims that we personally shrink from sacrifices related to the good of the social whole. The democratic ideal of this generation "consists in the principle that no man or woman should be forced to conform to any standard of duty against their will, or, in short, in the principle of universal selfishness." Capital and labor fight with no thought of the public interests, the standard of art is set by the price of a painting, the modern woman places what she calls her freedom before her duties as wife and mother, and our Congressmen work in the interests of their constituents and of local affairs against the common welfare. There is little team work. "As a unified organism we are nearly incapable of sustained collective thought . . . Ordinarily, we cannot think except individually or locally. . . . We can persevere in no unified plan developed by a central mind." So the average physician thinks mainly in terms having reference to himself alone and to his economic concerns.

The only indictment that can really be brought against the old type of family physician relates to his scientific shortcomings. Aside from this he stood impregnable. And we must not forget that in judging him scientifically we must invoke the standards of his time and not of to-day. Upon the whole his existence was thoroughly justified. But if the physician of to-day is to stand justified he must learn to think and act properly in his new sphere. He must sacrifice himself to common interests if he is denied a sacrifice to the individual. He must be socially unselfish. In this way he must develop the same character that the old family physician developed in his own way, and he must joyfully assume the trusts and responsibilities that modern medicine imposes upon him. The old physician never thought twice about his duties and was a courageous, resourceful soul and a tower of strength to those dependent upon him. So the modern physician must abjure all timidities and go forth to justify his existence and to shed greater glory upon the profession and upon medicine. Money standards constitute just as great a curse to-day as ever they did. That truth must constantly be kept in mind. And as for self coddling, that is the most wretched vice in the category of professional sins. Probably in this we have been unduly influenced by the counsels of the alarmists who would have us believe that we are wearing out physically long before our time because of strenuous life, although as a matter of fact it has been pretty conclusively shown that our increasing death-rate after forty is more apparent than real, being largely due to the influx of aliens of lower vitality than the best native stock. Even if those whom we have called alarmists are right, we are wearing out in the pursuit of the almighty dollar and not in doing good from spiritual motives. Let us wear ourselves out harder than ever in the pursuit of the noblest aims. We suspect, however, that joyous social service, however "arduous," is less exhausting, and less productive of arteriosclerosis than the sordid pursuit of filthy lucre for its own sake. We always think of the old time physician, despite his burdens, as attaining a ripe old age—as the "old family physician," in fact; perhaps if we can adapt ourselves to our new work in his old time spirit we too shall not die before our time but do as much good as he did—we shall not do any more, even with our new ways, if we weigh things in a spiritual and not a material balance.

Testing Men.

Are life insurance examinations as at present conducted the only way and the best way by which to test men physically and estimate their life expectancy?

It has always seemed to us that in spite of the refinements of the methods in vogue important factors in the problem are neglected.

For example, we should rather observe the physiological behavior, so to speak, of a man during and after a quarter mile run, or during and after a quarter mile swim, or during and after a sparring match, than we should his blood pressure in the circumstances in which it is ordinarily taken. We should rather observe a man playing hand-ball or lifting heavy dumbbells than we should his hemoglobin scale. The presence of a mitral murmur should not weigh against fitness as determined by athletic tests. A good trainer, if allowed sufficient time to try his men out, would not make many mistakes in selecting physically efficient men—not any more, we make bold to say, than a life insurance examiner. We do not believe that the captains of Cæsar made many mistakes in choosing men, and their methods must have taken little account of the things now emphasized, aside from how their men were "set up."

Put it another way. It is obviously possible for a man to pass a life insurance examination who would not measure up to the standards of Cæsar's captains or a good trainer. He might have no heart lesions, no renal disease, a "normal" blood pressure, a good chest, and a flat abdomen, and yet be a poor sort of man from the standpoint we have suggested. On the other hand the man who is defective from the present life insurance standpoint is often a better risk, actually, than the man who can pass the examiner's tests. He may be compensating his lesions, have better resistance to disease in general, and be physically equal to far more severe nervous strains, such as prolonged loss of sleep, than the so-called good risk. He may be capably performing physical tasks daily while the good risks is relatively incapable. Fortitude, endurance, courage, strength and certain good temperamental qualities ought to weigh against many of the lesions which appall the examiner. It is possible to determine these things.

Life insurance examinations do not test the whole man. We should say that they are of value only in the presence of gross lesions, and then they show unfitness no better than the practical methods we have suggested. Men have so many defects that practical physical efficiency tests offer a better criterion than stethoscopes and mercury scales.

If a man have a lesion that really unfits him for life insurance he will surely reveal his unfitness when tested practically.

If a man *is* a good revolver or rifle shot why must we inspect his optic nerves? If he *can* climb a twenty-five foot pole why test his leg reflexes? If he *can* hold his breath a minute above or under water why study his heart muscle?

Let us conceive of a testing station equipped to determine the actual physical efficiency of men. Is it to be doubted that the diabetic, or the clinically tuberculous, or the heart-dilated would fail to qualify? Is it to be doubted that the life-expectancy of those who did qualify would *exceed* that of the good risks of the insurance companies? Would not medical men trained in the observation of candidates tested under such a system develop a sureness and skill of just as high an order as that of life insurance examiners now working in the downtown business district?

We say that you must camp out with a man before

you really know him. Take army recruits. They "pass" the physical examination and are then tried out. The trying out eliminates quite a number of those who passed the initial examination. Isn't the trying out the crucial thing? Many of the rejected would try out better than those who pass, but they are found to have mitral defects, "abnormal" pressure, etc.

Selected risks must be men who live right, of course. Alcoholism, nicotine or *caffeine* poisoning, and bad personal hygiene must always be carefully considered. We should prefer a man with almost any kind of a moderate lesion who lives right to a physical paragon who abuses alcohol, nicotine and caffeine, and who violates the first principles of hygiene with respect to sleep, cleanliness, exercise and the sexual life.

Our thoughts and suggestions may outrage the ultra-scientific gentry, but we are addressing practical men who can see the limitations of drawing-room methods applied in finely appointed offices on the tenth floor of some sky scraper in the Wall Street district.

Miscellany

CONDUCTED BY ARTHUR C. JACOBSON, M. D.

Alcoholism From a New Angle.

Why is the booze fighter? Alcoholism is accounted for in a number of ways. It is associated by the sociologist with evil economic conditions, by the neurologist with essential defects in the nervous system, by the clergy with innate sinfulness, by the social service worker with bad home cooking, and so on *ad infinitum*. No doubt all of these factors operate; there is no one cause. But one sees alcoholism in all sorts of people, even in many who are normal enough. It is acquired under conditions of stress and strain and under conditions of idleness. It develops as an apparent consequence of poverty, and it plagues the rich. It afflicts the man whose foods are cooked badly, and it fastens upon the epicure as well. While there is no one cause, is it not probable that there is a predisposition underlying and synergistic to all causes? What is the probable nature of this fundamental predisposition?

Crile concludes his observations upon war and the warrior with the dictum that war is the natural vocation of man even yet, by reason of a kinetic equipment which has been evolved through warfare. His ductless glands functionate best when utilized in the course of the vocation which developed them. But modern man is but seldom called upon to meet the dangers of wild beasts or wilder men, and dangerous avocations are not readily available. The hunting instinct, pugilism and athletics involving risk of life and limb have a fascination for men who have not been rendered thoroughly effete by our artificial civilization, and probably represent attempts to realize in part the hazardous life which men once led of necessity, and which they enjoyed thoroughly. We have often thought, by the way, that the neurasthenic would be best treated if he could be induced to engage in physical activities making actual demand upon courage. The timid swimmer should train himself to dive expertly from great heights. Needless to say, the person who cannot swim at all should get busy and learn how. Neurasthenics who fear high places should habituate themselves to this kind of exposure. The reader can elaborate the idea in his own way.

If man can engage in war he finds the most natural use for his kinetic system. Crile says that a bayonet charge is a most enjoyable orgy, when you get into the spirit of the thing. We have had occasion during the course of the present war in Europe to note that the soldiery have easily dispensed with their erstwhile alcoholism. In the light of Crile's theories the reason becomes apparent.

But man at peace with men and beasts and not engaged in courting the dangers of the world must needs find something which he can fight. Essentially a fighting animal, he hits upon the expedient of fighting booze, nicotine and other drugs. Booze fighting is a good term. It expresses exactly the real nature of the physical combat with John Barleycorn. In alcoholism there is a deadly conflict between the body and its forces and ethylic howitzers. This is a fact beyond cavil. Alcohol and nicotine are enemies which furnish campaigns lively enough to suit the most primitive male of belligerent instincts hidden deep beneath the veneer of culture. So the Irishman is apt to be an old campaigner in this field of militarism, using alcohol as a succedaneum for human opponents, readily switching, however, to the real thing whenever occasion is propitious, or when he can make it propitious. Schooled for centuries in combat as a daily ration, and forever at war with the members of other septs of his own countrymen when not engaged in repelling foreign invaders, there never was a time when the Irish Gael neglected the intensive cultivation of his kinetic system, hence his struggles with the spirituous enemy have been of a peculiarly heroic and even frightful character.

Nicotine is a doughty antagonist, too. It puts up a stiff fight and strikes hard at the citadel, the heart. Its sapping and mining operations in the nervous system are not to be despised, and the resisting forces of the body find in it a worthy foeman.

But after all, alcohol provides the liveliest scrap. When a few ounces are discharged at the consumer's defenses a battle royal begins in the course of which furious charges are led and repulsed, or succumbed to. A stand up and knock down fight ensues which beggars description and really satiates the belligerants. Herein is the *ne plus ultra* in battlefields, next to an Ypres.

Seriously, however, alcoholism is only a succedaneum for war. What we need is an antidote invoking courage without the desecration of the lives and limbs and health of other men. That may have been good enough for cave brutes, but it is unworthy of the men of today, unless Mr. Mitchell, the editor of the *Sun*, is right in his claim that the mind of man has not changed a whit in the course of all the ages, in which case there would appear to be little hope. For if the mind of man was created as it is by God, and not evolved, there can be no change in it. While this hypothesis is a strong argument for divine creation, it discourages vision of a better man, unless it shall please the Almighty to make extensive alterations in His handiwork.

Some Thoughts Anent the American College of Surgeons.

The American College of Surgeons interests us a great deal. In the first place it is an aristocratic organization, so much so, in fact, that its foundation in such a country as the United States was attended with real difficulty—difficulty with respect to incorporation, we mean. At its convocations we understand that there is considerable ritual. Then we have gained the impression that some of the leading spirits in this esoteric body are in favor of dropping the use of the degree M. D. and employing another; just what we don't know. The medical schools, we learn, are to be induced to give

a degree in surgery—perhaps that would cover the point. In the meantime we note a tendency on the part of the Fellows to use the title F. A. C. S. without the M. D.

In short, there appears to be a movement on foot to constitute a profession of surgery as distinct from medicine. Such a drawing apart, if not actual separation, from the great body of physicians seems to us a step backward. Time was when such a separation existed, in the days of the barber surgeon. Surgery needs more than a mere background of medicine; it must be an integral part of medicine, if it is not to be merely a glorified kind of handicraft. The surgeons have everything to lose in disarticulating themselves from the profession as we know it now. While the operation is possible, it is a capital operation which, while it would not prove fatal, would weaken the secessionists.

Actual or even nominal separation, however, is almost inconceivable, because even if there were distinct schools of surgery, courses in medicine would have to be given in them, and what surgeon but would have to be as familiar with typhoid fever and the gastric crises of locomotor ataxia as any physician. The trouble to-day is that surgeon and physician are not close enough together in the diagnosis and treatment of cases, not that they are too close. Even to have a special degree conferred by existing schools is apt to accentuate undesirable distinctions. There would seem to be a certain amount of unworthy snobbery about the whole business.

We make bold to say that surgeons "have nothing on" workers in the field of pure medicine. In that field lie the greater and more fascinating problems, problems which engage the best powers of the profession. How any man worth his salt who has been a physician could think of sacrificing the moral and intellectual implications of that status is beyond our ken. Such a man could never have really loved medicine, and if there be such, craving only the strategy and spoils of pure surgery, it is perhaps well that he should wear a distinctive badge. But even if the movement actually crystallizes we are sure that the finest and ablest minds and hands will still be found with us and of us.

The Burden of Contraception.

In a recent issue of the MEDICAL TIMES we called attention to the fact that the burden of contraception falls almost wholly upon women. We said that they are douched, aborted and in various other ways subjected to inconvenience and dangers to health and life. We also said that it would be a fine expression of unselfishness if men would take some of this burden off the women's shoulders (pelves?) by submitting to occlusion of the *vas deferens,* in cases in which contraception is indicated. Doubt was expressed whether any men had ever taken this initiative. We are happy to state that we have been assured by one of the best informed students of matters of sex in the American profession that he has not only heard of members of the male sex submitting themselves to sterilization for the sole and only purpose of saving their wives from conception, but has seen them so submitting themselves. He has also had a number of men ask him to perform vasectomy on them for this purpose, among them some members of the medical profession. He writes: "Not all men are brutes, and there are quite a few members of the male sex who are chivalrous enough to wish to take the burden from the women's shoulders and place it on their own."

The Old Time Country Doctor.

Note.—The following poem was written by a friend of the Associate Editor, Mrs. Magdalene Merritt, of Oak Knoll, Voorheesville, New York. Mrs. Merritt has achieved distinction through her "Songs of the Helderbergs" and other works. Her tribute to the country doctor has a special interest for the Associate Editor, since it was inspired by the life of Dr. Abram De Graff, of Guilderland, Albany County, whose kind ministrations in the Associate Editor's early childhood have not been forgotten. Aside from these personal associations the poem is a notable tribute to a noble life and will please our readers.

Every person in the township knew the doctor and his pony,
With his drooping head that never knew the galling taut check rein,
Always jogging on together, never stopped by stormy weather,
Rumbled on his covered buggy down each winding road and lane.

Through the quiet, shady woodlands, lovely in their shady beauty,
Crossing swiftly flowing brooks that thread the meadows rich and wide,
From the valley to the hill-top, with its lengthened charm of vista,
Splendid nature for companion constant by the doctor's side.

Never holiday nor Sunday, every day for him was work day,
Joys unselfishly relinquished, for his patients came before;
When they weary waited for him, longing for his hoped for coming,
How his kindly face brought comfort and revived their hearts once more!

Light as air the gloom was lifted with his cheery word of greeting;—
"Tell me wherefore are you still in bed this lovely Sabbath morn?
Yes, I know it is a pity that we must sometimes have illness,
But cheer up, you'll soon be better, so no need to feel forlorn."

Just a little bald at temples, and a scholar's stoop of shoulders,
When he bent above the table with his case spread open wide,
As he measured out the doses, there was something in his presence
That inspired hope and courage, since in him you could confide.

But 'twas not always in summer when the birds were singing gaily,
And he peered around the bows to catch the morning's rosy glow;
Or the farmers greeted kindly as he rode the pleasant highway,
For he knew the bitter meaning of the winter's cold and snow.

Ah! the blinding storms that whistled, and the banks that filled the hollows,
Stinging blasts of cold that bit him, and the frost that nipped him too;
Through the ditches, over fences, detours tedious and many,
But with sick ones calling, calling, what else could the doctor do?

For they seemed of his own family from the babies to the elders,
His heart was big and warm enough to cherish one and all;
To rejoice in their rejoicing with the loved one's health returning,
Unmeasured sympathy bestow when the threatened blow would fall.

True, he could not boast the learning of the modern school and college,
Yet experience had taught him how to read each one aright;
And there never was a doctor who could boast of ten diplomas,
Who could do more than old doctor, when called hastily at night.

Leave his armchair and his slippers, and the books he loved so dearly,
In his big fur coat and mittens, oh, many a storm he'd breast,
And his faithful little pony needed not his words of urging
On those lonely midnight journeys when the world lay wrapped in rest.

He is living on his laurels, he has earned them well and nobly,
Still there seem to be some people cannot leave him yet alone,
And the smooth-faced young physician in his buzzing, flying auto,
Cuts no figure with old doctor, whom they still claim as their own.

For his hand is just as steady, and his eye as true and kindly,
As they were in times long past before his years were on the wane,
And his loyal, faithful service wins this tribute to his greatness,—
"We might travel far to find so fine a gentleman again."

Surgery

Duodenal Ulcers.

In writing on the treatment of duodenal ulcers, L. Lambert says: Acute ulcers heal well. The main principles of treatment are:

(1) To keep the stomach contracted.
(2) To prevent stomach movements.
(3) To keep the digestive glands in the resting condition.

The majority of us, especially since Dr. Wilkinson's exposition of the Lenhartz diet, with alkalinization of the stomach contents, must have seen excellent results following on this treatment, and in many cases there is certainly a symptomatic cure. In chronic ulcers there seems to be much less certainty as to the probability of an anatomical cure. Still, there is no doubt that some patients remain well for many years, and it is a not uncommon experience in making a post-mortem examination to see scars of healed ulcers. Even when apparent recurrence takes place, it is not certain that this has taken place on the site of the original ulcer. The methods of treatment of chronic gastric ulcer are much the same as in acute ulcer. The Lenhartz diet with alkalinization is certainly of the greatest service. Any condition interfering with the general health must be rectified. It is hardly necessary to menton scrupulous care in regard to the teeth, the cure of chlorosis if present, and the rectification of any septic condition in any part of the body. If any conditions such as appendicitis or gall-stone trouble exist, its cure, usually by surgical means, must be attempted.

As regards drugs, atropin seems to be particularly valuable in preventing the occurrence of intestinal spasm. Dr. Hort has laid much stress on the administration of normal antilytic serum, which he gives in cases of 10 c.cm. 3 or 4 times daily. Cohnheim urges the use of moderate doses of olive oil for combating hyperchlorhydria. He says he has never been obliged to have an operation performed in a case of simple ulcer. In spite of all our methods of treatment, some physicians are rather pessimistic concerning the probability of the medical cure of a chronic hypersecretion. Fenwick says, "I am obliged to confess that out of nearly a thousand cases that have come under my care, I can hardly recall an instance in which a cure can be said to have been effected without recourse to an operation." There cannot be much difference of opinion as to the advisability of operation in two conditions. First of all, in perforation which requires surgical treatment, even in cases where the diagnosis is probable but may not be absolutely certain. In cases of chronic obstruction at the pylorus or duodenum, with evidence of gastric dilatation, surgical intervention and gastro-enterostomy are called for. There is some doubt as to the advisability of operation in repeated hæmorrhages; but the general opinion is that such a condition requires operation. At the same time, it must be borne in mind that it is not always easy to make certain of the site of the hæmorrhage.

The question as to the actual operation to be performed is one for the surgeon to determine. There is, or has been recently, a tendency to regard chronic duodenal ulcer as curable only by surgical means. Mayo humorously says that his opinion used to be that operation should be performed after nine complete and permanent medical cures.

Gastro-enterostomy is said to be a very successful operation. Mayo's mortality is 2.4%, and Moynihan's is 3.5%, while in operation for chronic ulcer, Moynihan had two deaths in 216 cases; of those who recovered, 196 were said to be cured, 8 improved, and 12 were no better. It must be remembered, however, that all surgeons are not Mayos, or Moynihans, and other authors have given other results for this operation. In the *Medical Annual* of 1912, Dunham gives the result of 48 cases: 12 of the patients died within 17 days of the operation, one from intercurrent appendicitis, one from perforation and peritonitis, one from peritonitis, two from hæmatemesis, five from shock, and two from vicious circle. Again, in the *British Medical Journal* (March 1, 1913), Dr. Bourne gives the result of 92 cases of gastro-enterostomy for ulcer. Seven died after the operation, while of the end results in 24 cases of gastric ulcer, the results were excellent or good in 38%, and were fair or bad in 62%. In 37 duodenal cases, on the other hand, the results were excellent or good in 70%, and fair or bad in 30%. Dr. F. J. Smith, in the *British Medical Journal*, of March 19, 1910, says, that of 314 cases treated by operation, and omitting perforated cases, 55 died and 28 relapsed.

One would like to know also whether all of these patients who have been subjected to operation are actually cured, or is there a symptomatic and not an anatomical cure. It must be within the experience of many physicians, in hospitals particularly, that symptoms are not altogether ended by gastro-enterostomy. Some of those patients who have been operated on are frequent inmates of hospitals long after their operation, with the original symptoms much as they were before operation. Even after resection of the ulcer, a permanent cure does not always result. Moynihan, in the *Medical Annual*, 1913, quotes Dobson (*British Medical Journal*, 1912, II., p. 864). He states that of 14 cases in which a gastric ulcer was resected without gastro-enterostomy, there were four recurrences within twelve months of operation.

Finally, we may say that gastro-enterostomy is not to be regarded as the complete and final means of cure. As Dr. Bourne says, "It is no more than an excellent way of helping a stomach to cure itself."—(*Med. Jour. of Australia*, July 3, 1915.)

Battlefield Casualties.

In the figures for the total British losses since the beginning of the war, recently given out by the War Office, the proportion of killed to wounded works out almost exactly in the ratio of one dead for each three wounded. This was for all the forces in all zones and classes of military activity. No differentiation for the casualties in trench warfare has as yet been given out officially, but certain reports indicate that in such warfare about one person is killed to each two wounded. These figures are interesting in comparison with the proportion of 1:4 which had been accepted before the war, and indicates that the kind of warfare which is being conducted bears directly on the amount and character of transportation and hospital facilities required in the zone of such warfare. Our accepted basis for estimates on the clearance of the battlefield will, like so many other standards, doubtless have to undergo material modification.—From the *Military Surgeon*, Washington, D. C., January, 1916.

The American Association of Clinical Research

JAMES KRAUSS, M. D., Permanent Secretary and Editor.

CLINICAL STUDY OF 329 CASES OF CANCER SUBJECTED TO SURGICAL IONIZATION.*

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Out of a total of some three thousands cases of cancer observed by me during the past twenty-two years, including epitheliomas, carcinomas and sarcomas, three hundred and twenty-nine cases have been selected for treatment by the surgical ionization method first described by myself in 1895, and since modified from time to time as depicted in various publications. This method, in essential form at present, consists in the diffusion of the ions of zinc by an effectively strong direct current from zinc needles connected with the positive pole and thrust into the edges of the growth, the circuit being completed by a negative electrode in the center of the large growths or by a negative pad on a distant skin surface in the case of small growths. The method employed in the large growths is therefor bipolar, with both poles within the neoplasm, permitting an intense action, both ionic and thermic, under general anesthesia, and resulting in the reduction of growths of large size to whitish, boiling masses of sterile debris in a few minutes with the healthy surrounding tissues sealed off. Our only subsequent concern, if all diseased tissue has been included in the destruction, is that secondary hemorrhage may not occur from large vessels affected when the mass separates—a danger that must be eliminated at times by preliminary ligation of the vessels.

Small growths are placed under the unipolar method, in which the zinc needle anode alone is inserted in the growth, and in which the radiating ions can be depended on to destroy the growth without heat. This method requires local anesthesia only.

The patients selected for this method presented growths in accessible locations, with possibilities of free drainage, and were supposed to be free from internal metastases, though often metastases were found later to have been present in latent form. Where infections of regional glands were accessible these were subjected to the same method at the time of operation.

The results of this work in the 329 cases have been carefully ascertained by a follow-up system, and show that 147 cases of the 329, or 44 per cent., were freed from the disease and remained free at the end of periods of time since treatment varying from eighteen years to six months, 111 having passed the three year period. Fourteen patients succumbed to secondary hemorrhage as a result of the operation, a mortality of a little over 4 per cent., mostly occurring in serious growths of the neck or tonsillar region.

Analyzing these 329 cases from the point of view of their condition at the time of operation, 119 were classed as surgically operable with 105 successes, or 88.2 per cent. Two hundred and ten were classed as inoperable, mostly desperate cases recurrent after knife operations, with 42 successes, or 20 per cent.

Clinical Impression Gained.

All cases, with the exception of a few small skin epitheliomas, received careful study by competent pathologists, with microscopic confirmation of the clinical diagnosis, speciments having been removed immediately prior to operation.

The Clinical impressions forced upon one who has made daily study of this number of cases while under treatment, followed by frequent examinations of the 147 successful results up to the present and of the 182 failures until their death may be worth a few words. Moreover, until laboratory research workers arrive at definite results of greater value than have been reported to date, our guide should be clinical observation of the living human victims and a collation of the evidences thus obtained.

1. My observations convince me that all the patients included in this study were curable at some time had an early diagnosis been made, and that greater efforts should be made to arrive at earlier diagnoses and to institute earlier treatment. While I know of no precancerous stage of these growths, a cancer being a cancer even in its infancy, all have a pre-malignant stage in which they are curable when accessible. Such a diagnosis of a curable cancer merely requires a combination of the educated touch with proper knowledge. A painless, slowly growing, hard tumor should be diagnosed provisionally as cancerous. To wait for ulceration or pain is to wait for late phenomena that do not point to cancer but to death. At this moment many thousand citizens of this country are losing a swiftly passing opportunity for eradication of apparently harmless growths, through their own fault or their physician's lack of alertness.

2. The study of cancer, its nature and causation, has reached its limit at the hands of pathologists, who deal with dead tissues usually. A study *in vitro* alone promises advances in this important work, in well-equipped laboratories and with workers trained to the observation of protozoal phenomena rather than bacterial, for all indications point to an endocellular parasite of the animal kingdom rather than the vegetable.

3. The clinical observer closely watching these cases cannot fail to believe them to be essentially parasitic, for no non-parasitic affections present similar evidences of erosion of normal tissues of the host. In the case of cancer this erosion or eating into normal tissue proceeds by the substitution of cancer tissue in overgrowth instead of by a mere ulceration, as occurs in benign parasitisms. This is peculiar to malignancy, and appears to the clinician to be best explained by Dr. Erwin Smith, of the Bureau of Plant Pathology, at Washington, as due to the peculiar behavior of tissue cells when invaded by the endocellular parasite of cancer, which first stimulates the cell to an abnormally rapid reproduction before finally killing it. Dr. Smith has discovered stimulating toxins produced by parasites within the cells of plant cancer which greatly increase the rate of reproduction of these cells. Should these discoveries of Dr. Smith be verified in the carcinomas of animals the phenomena of erosion, metastasis and cachexia, the death-dealing triad of cancer, will be adequately explained.

4. These clinical impressions and theoretical considerations that have led many of us to believe firmly that cancer is due to a cell parasite are greatly strengthened by the observed results of injuries, such as incomplete operations, incisions for specimens not immediately fol-

*Read before the seventh annual meeting of the American Association of Clinical Research, September 24, 1915 at Philadelphia.

lowed by removal or destruction of the whole growth, and even by secondary infections by pus organisms in causing a more rapid growth of the cancer. To this should be added the recurrences in apparently clean wounds after cutting operations, during which living cells accidentally detached from the growth possibly received a re-implantation.

5. In view of these facts and impressions, I desire to make a strong plea for action based on the assumption of a parasitic nature of cancer even before adequate proof is furnished by laboratory workers. This action is in the highest degree prudential and conservative of the patient's life, and is already the practice of many workers in this field.

Action based on this conviction demands the removal of all growths when possible before colonization, miscalled metastasis, has occurred. The method of operative removal, moreover, should be one in which operative re-infection is impossible. This demands that the knife be used only when by it *the growth may be removed without wounding it.* In all other operable cases a method should be used which destroys all living organisms during the operation, such as that described in this paper, or by heat or similar physical forces.

6. In spite of evidences that point to the parasitic nature of cancer there is no clinical evidence that cancer is communicable directly from one person to another, hence there is no excuse for the foolish shrinking from afflicted individuals by members of their families observed at times. A person with sore eyes or a common cold may be more dangerous to these over-careful relatives. Transmission through an intermediate host is at least plausible, but his host is doubtless less ubiquitous than the anopheles mosquito, and may even be a vegetable.

SOME NEW STUDIES OF DRUG ADDICTIONS AND THEIR TREATMENTS.*

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Hartford, Conn.

Drug addictions are practically new fields for medical study and treatment. Irregulars and quacks have occupied this region with the mast dogmatic theories and conclusions, which are not confirmed by accurate studies and experience. Forty years ago Dr. Joseph Parish, of Philadelphia, wrote some very excellent papers on the opium addiction, which practically constituted the starting point of much of the literature of today. Since that time, a number of authors have pointed out practical lines for medical treatment, and shown conclusively that the results from scientific care and treatment are as positive as those in any other branch of medicine. A few men in this country have given special attention to the treatment of these cases, and two or three books have been published giving the causes and conditions most prominent. I have written a text-book describing this disease and giving outlines of this new field of practice that is at present obscured by confusional theories and doubtful methods of treatment.

It is a source of regret to note that a few men in the regular profession have endorsed some of the quack methods and extoled them as the latest and best means of treatment. When these are put to a practical test the results are very unsatisfactory. In my experience, extending over forty years, in which the alcoholic and drug taker has been exclusively studied, unusual opportunities have been presented for clinical study and grouping of persons of this class. Recently the number of drug takers has been greatly increased from the effect of the Harrison law, which makes it very difficult to secure the drug at all times and in sufficient quantities. There are at present no very accurate statistics of the number of drug takers in this country. The report from the Tennessee Commissioner of Foods indicates that there are at least 250,000 in this country, who are known to be addicted to this drug. Whether this number is increasing or not is unknown, but it is evident that there are a great many secret addicts to narcotic drugs who are not only wide scattered, but can be found in almost every town and city of the country. While the causes are very complex and dependent on a great variety of conditions of living, it must necessarily be very difficult to group and study the symptoms in any satisfactory way. From a study of the histories it is evident that there are several very distinct chains of causes which are more or less prominent in every case, and when studied carefully, throw much light on the matter of treatment. Recently Dr. Rankin, of the Waterloo Hospital, London, has called attention to a class of neuroses, termed "fatigue dyspepsia." This appears to me to reveal a new range of causes from another point of view, which have not been understood before.

The purpose of this paper is to group some of the leading facts in the causation which are more or less common, and describe their relations to the diseases which follow. As an example of what is practically fatigue dyspepsia, the following may be stated. A robust, active man in middle life, a total abstainer from spirits and tobacco, and generally careful in his habits of eating and living, suddenly suffered from great financial loss and reverses, and for a year or more was greatly disturbed by fears and anxieties. Then he began to suffer from dyspepsia, had epigastric pains, heart-burn, flatulence, disturbed sleep, and was continually hungry. He ate heartily, although the food distressed him. He was alternately constipated and suffered from diarrhea. He tried various treatments, visited watering places, drank mineral waters, and was under the care of eminent specialists, but all to no avail. Finally an irregular physician gave him a hyperdermic of morphia. The relief was so pronounced that it was repeated, then, finally, all his former symptoms disappeared. Two years later he began to realize that he could not do without 8 or 10 grains of morphia a day, and there was great danger of continuing it. He went to a quack institution. The morphin was removed in a day or so and great exhaustion and debility followed. A few weeks later he relapsed and finally came under my care, and after a few months made a very good recovery.

This patient represents a distinct class of drug takers, who from mental strains and drains suffers from dietetic and functional disturbances which indicate serious lesions. Thoughtless physicians will be baffled and unable to make a diagnosis and often resort to morphia simply because it controls the symptoms. In this way they will open the door and send their patients out into either an open or secret drug addiction. Such persons are often termed neurasthenics, simply because the nerve symptoms are so prominent and the causes are obscure, but the fact that narcotic drugs relieve them so perfectly is a significant sign of distinct psychical and physical causes. The question of food and its assimilation is a complex one, as well as the effects of environment and occupation, and the emotional condition of the patient. The mental factors in these cases

*Read before the American Association of Clinical Research, at the Seventh Annual Meeting in Philadelphia, on Sept. 24, 1915.

are often overlooked. The depressions and perversions of the digestive and other processes may well be termed fatigue, because it literally means improper nourishment of the cells and disturbed functional activity. There are chemical changes followed by excessive acidity or alkalinity or the formation of certain toxins which become irritant and break up the normal equilibrium of metabolism. When these conditions are only marked by loss of weight and occasional derangement of the stomach, formation of gas, morphia relieves them in a most satisfactory way.

There is a certain number of persons in whom opium and its alkaloids are irritating, followed by vomiting and headache. After a second and third dose these symptoms pass away and the opposite follows. There is a certain other number, larger perhaps, of persons who are extremely susceptable to opium and its alkaloids.

Small doses produce relief, mental quietness and comfort. These are the persons who have a constitutional suceptibility to narcotic drugs and become addicts very quickly.

The term fatigue neuroses indicates not only faulty metabolism, but low vitality from distinct causes. Drug addictions starting from this point have a most fertile field for the growth of psychoses and neuroses. A study of the early symptoms of many of these persons show disturbed sleep, mental irritability, capricious appetite and general low vitality. With this there are disturbances of the liver, kidneys and heart, and mental fears of impending death. These fears disorder the sympathetic nervous system in ways unknown, and all form favorite soils for narcotism. Examples are common in society circles, where the strains of social life, the absence of proper exercise and hypernutrition, brings on conditions that call for relief. It is in the treatment of such cases that morphin and its alkaloids is extremely dangerous in commercial circles where burdens and responsibilities, cares and fears, keep the mind in perpetual agitation and unrest, the same neuroses breaks out, and drug and alcoholic addictions are sure to follow. Numerous examples in all grades of society, from the poor, half-starved man and woman, to the home of the wealthy, reveal this range of causes which act with unerring certainty. There is another range of causes equally obscure in many instances. They are called by various names such as mental and nervous shocks, and are really physical and psychical palsies. They are very largely overlooked in a general study of these neuroses.

Traumatism.—Another term which describes them is traumatism, and is seen very often where some person is profoundly shocked and depressed by some unexpected revolution in his family and business circle. This shock, with its depression, is marked by insomnia and a most complex variety of symptoms which subside at once from the use of morphia. Many patients give a history of such a change, breaking up their former relations, death of relatives and friends and a period of invalidism and then the gradual development of the morphia addiction. Often these shocks are physical, marked by bruises, broken bones and wounds, blows on the head, concussions of all sorts. Then follows low vitality, insomnia and various disorders which end finally in drug-taking. Curiously enough, the consciousness of their escape from death becomes a terrible depressing factor that deranges all the functional activities, and this becomes a delusion which is only destroyed by narcotism. The familiar local palsies following traumatisms that are both physical and functional bring with them mental disturbances, and these take on all sorts of forms, often so distressing that only narcotics can bring relief. Obsessions may continue, but the derangements are lessened, and the person has the satisfaction of feeling a degree of what is called normal again, after the use of drugs. Many persons have had attacks of fever and local inflammations followed by long periods of invalidism, which leads up to drug addictions. A third group of causes is equally unrecognized and yet the history is very clear in many instances.

Tomemias and Autointoxicantions.

Under these terms, there are undoubtedly a great variety of both exciting and predisposing causes that move with the same certainty in developing these neuroses as other conditions. Common examples of this are seen among the prosperous and successful business men and women, who suffer from over-eating, under-exercise, developing toxemias and consequent derangement of the nutrient and sensory centers, and then turn to drugs for relief. In other circles, where intense struggles and failures alternate and leave little or no time for recreation or rest, the same auto-intoxications follow, marked by fatigue, suffering and pain, for which drugs are taken. The physician often recognizes these anemias, due to deficient nutrition and congestion here and there, and may thoughtlessly prescribe remedies of the narcotic class which cover up and start a drug addiction. Proprietary drugs are found to be very active factors in the relief of these protests of nature and are followed by the same results. A few years ago it was the custom to prescribe spirits for all these conditions of low vitality and toxaemia. This always ended in complications and various neuroses, of which spirit and drug taking were very common. Thus these general causes, such as fatigue dyspepsia, traumatisms, both mental and psychical, auto-intoxications and toxemias are all distinct groups of active and predisposing conditions, which culminate in drug addictions or neuroses and pschoses equally complex. From a clinical study of the history of these cases, the magnitude of the neurotic conditions will appear, and the questions of treatment will have a tangible, definite plan and object to be obtained.

Clinical Treatment.

So far there has been great confusion and conflict of theories, because the facts in the causation were not understood. Quacks and irregulars have lead with their dogmatic theories and statements of the conditions present and how to relieve them and created the impression that the mere removal of the drug was the most essential and was practically all of the treatment. The patient will then recover. Most elaborate and detailed accounts of how the drug can be removed with the least suffering has been the theme of many pages of literature. Advertising quacks still promise the rapid, painless withdrawal of the drug and the quick, easy road to recovery and natural and normal health, by means which they only understand. In reality, the removal of the drug is insignificant compared with the general treatment both before and after. Having ascertained the general range of causes which have produced the addiction, one is able to outline with considerable certainty methods of treatment that will lead to ultimate recovery.

The first question to be settled is whether the patient should be treated in the home or in a hospital. Experience and the general observation indicate that the hospital is by far the most practical place for the successful removal of the drug. One reason is, that the surroundings can be controlled more positively and that

the patient need not be taxed to exercise restraint as he would in a private home. Most patients of this class have unstable will power and obscure consciousness of the nature and consequences of their acts, and while anxious to recover, are all more or less powerless to resist an opportunity to secure the drug, and thus neutralize the efforts of the physician. In many instances restraint, or the impression that the drug cannot be easily obtained, is a great stimulant and brings a sense of satisfaction to adapt themselves to certain conditions. This can rarely be obtained at home, but in a proper hospital it is the rule. Chemical restraint is always perilous. In the alcoholic the delusional mental condition may be overcome by narcotics and many drugs, without serious entailment. In the opium addict restraints by chloral belladonna, hyoscine and a great variety of drugs, not only complicates the condition, but lowers the vitality and makes the return to health a more serious problem. One great purpose in treatment should be to preserve the patient's consciousness of time and place and to secure his full co-operation without mental impairment to the extent of destroying his appreciation of what is done.

Another question is, shall the removal of the drug be by rapid or slow graduated stages? In one instance a week or more would be called a rapid withdrawal. In the other, six or seven weeks would be a period by the gradual process. All patients are anxious to have the drug taken away rapidly, and all are very sensitive to suffering and pain, and assume standards of comfort that are not normal or reasonable. Not unfrequently they are not willing to suffer the least insomnia or discomfort, and like the monks of the Middle Ages, are continually seeking rest and relief from every sort of pain and suffering. The quacks take advantage of this mental attitude that demands comfort and freedom from suffering and give substitute drugs. While removing one, they give the others in large quantities, giving the idea great prominence that the removal of the main drug is the great object to be obtained, and the substitution of any other drug is harmless and can be dropped at once. In this way they can withdraw the drug in a very few days and claim that the patient is cured, simply because no opium or its alkaloids are taken. Then comes the awakening period and the substitute drugs fail and leave a worse condition than existed before.

One general fact is not often recognized, that in the opium addict only a limited amount of the drug is absorbed and acts on the system. The rest of it becomes a waste and source of endless toxaemias. Thus in the use of morphia 10 grains does not produce double the effect of five, and so on to larger quantities. It is rare that the narcotic effects of any dose of morphia exceeds that of 5 or 6 grains, except by its accumulative action. It not unfrequently happens that certain unknown conditions occur in which morphin is absorbed that has accumulated and death follows. This occurs in persons who take large quantities. In the treatment it is found that the amount can be diminished to 4 or 5 grains a day if done secretly and no suffering or physical depression will follow from the withdrawal. Where the patient is ignorant of the amount of drug given, it is found that 4 or 5 grains produce the same effect as much larger ones. Where patients have been taking large quantities of the drug, very active catharsis and elimination, kept up for a day or two, may be followed by a withdrawal down to three or four grains. The patient all this time having the impression that the amount taken, is the same as before. Psychical treatment is a most important factor and must be given with tact and great judgment to prevent the patient from concentrating his delusive reasonings on any particular phase of the treatment and also to create a degree of confidence and reasonable satisfaction. The patient is practically poisoned, suffering from auto-intoxications and every medicinal measure should be directed to meet this condition, without lowering the vitality or functional activities of the body.

In the gradual process of withdrawal, the largest doses should be given in the early evening and the smallest in the morning or forenoon. Care should be taken to prevent the patient from using stimulants, such as spirits, coffee and tea and large quantities of meat. All use of tobacco should be practically prohibited or restricted down to a minimum, and every means used to promote nerve rest, quietness in the most cheerful physical and psychical surroundings. Experience shows that belladonna and its alkaloids with hyoscyamus and hyoscin and the various alcoholic derivatives are to be avoided. While they bring a certain amount of comfort and rest to the patient, they are almost certain to produce new sources of poisoning and degenration from which recovery is more or less difficult. The bromides have been largely extoled as well as the coal tar derivatives, but their value is uncertain, and open to very serious doubts, and should never be used except in special cases and for a very limited time. In a hospital, where the conditions and surroundings can be fully controlled, one of the most practical remedies is sulphate of magnesia from 10 to 20 grain doses, once or twice a day. Various bitter tonics, of which cinchona, quassia and gentian are common, have much value, but should never be used long, except for particular reasons on special occasions. Some of the vegetable narcotics of which hops, valerian and others of this class have a quieting effect, may be given with very good results, but this requires discrimination and study of the patient

Hydropathic measures, particularly showers, warm baths of the Nauheim variety, meaning mineral baths of soda and salt, are the most practical and valuable remedies that can be used. Various applications of electricity, the static breeze and electrical baths are very useful and prominent in their effects.

The withdrawal period, if gradual should constitute the dropping down of a fourth of a grain every three or four days, or oftener, particularly in the forenoon. If the needle is used the psychical impression of the relief following from it, should be recognized. In many persons there is a needle mania which it is difficult to overcome. The needle must be used a long time, if only distilled water is given, for its effects on the patient's mind. Commonly the patient demands the needle, long after the drug has been withdrawn and this taxes the psychical skill of the physician. Whatever way the drug is removed, it is found that the same drug in another form is of value. Thus if morphia is the drug, a tincture of opii concealed in bitter drugs, or powdered opium in a pill form, may be substituted. It is found that the powdered opium has a stronger narcotic effect than any of its alkaloids, and the withdrawal of this is less irritating and depressing than that of the alkaloids. Often the tincture has the same effect. Active hydropathic measures seem to increase the effects of both the tincture and powdered opium, and lengthen out its narcotic action. A large number of this class suffer from acidosis and this should be quickly discerned and treated with soda and other antiacid remedies. The sulphate of magnesia seems to meet the largest number of requirements as well as acting as a tonic. There are a great variety of means and measures that will promote sleep and rest—which are often peculiar to the patient and

frequently tax the physician's skill and therapeutic resources to the utmost. Experience shows that the removal of the drug can be accomplished in a very brief time and then the various psychical and physical symptoms will present a new problem of greater magnitude.

The After Treatment.

The question is, how to continue the restorative processes in both mind and body and secure a degree of permanence that will prevent future relapse. Many patients insist on going back to their old home or place of business when they realize that the drug has been taken away or they look forward to some ideal place in which new surroundings and new conditions of thought and living will rouse new vigor and new strength. Patients who go back and take up the burden of life again with the expectation that the future will be a continuous progress towards health and comfort, are disappointed. For a few days the duties and responsibilities may be carried with greater vigor than ever. Then comes exhaustion, insomnia and nameless pains which are ascribed to every other condition but the real one. These are the signal flags which are very often unheeded. Not unfrequently patients resort to proprietary drugs, and this almost positively leads to relapse. If the family physician is called in, there is a possibility that his assistance will not be helpful, particularly if he does not understand the patient and his condition. On the other hand, if the physician comprehends psychical sufferings and neurasthenic conditions he will be able to point out means and measures for rest and change that will be of the possible greatest value. Not unfrequently, the patient starts out on a sight seeing tour, attended with all the discomforts of travel, change of food and derangement of the ordinary habits of life. This always ends disastrously. In reality the brain and nervous system is unfitted for the former strains and drains for a long time after the withdrawal of the drug. The person may possibly engage in some duty, and take on some responsibilities, but it must be within very narrow limitations, and it must be a matter of great concern as to how far he can fill the duties of his position without loss and strain that would naturally follow. Business men are particularly exposed to the possibility of relapses from the annoyance and frictions of life. Housewives and women generally should realize their inability to go back again to where they were before. Professional men of all others should never take up the old routine of work until they have had a long period of continuous restoration and freedom from every possible strain.

A ver yimportant part of the after treatment is physical culture through baths, massage, exercise and diet and exact methods of living. Often, entirely new surroundings and duties are most helpful and invigorating.

The one conclusion which presses itself to the attention of the general profession everywhere is, that this neglected field of medicine promises the richest results in the successful treatment of individual cases, but they must have the same exact attention and care that fever and surgical cases require, also that there is a large increasing number of neurotics who are susceptible to drug addictions and should be protected by the physician, and advised how to avoid the side track to destruction. Alcohol, bad living, bad training, bad food, bad environment are actual exciting and predisposing causes, existing in every neighborhood, lowering vitality, diminishing efficiency and culminating in disease and death. Drug and alcohol addictions are positive growths, which notwithstanding all the legal efforts of control, will spring up and flourish everywhere, and call for the largest and best medical skill and judgment to treat and control.

The Physician's Library

To-morrow's Topics.

These books* discuss in brilliant and searching fashion everything from the question of which was made first, the hen or the egg, to the double standard and mint juleps. Nothing that we can think of has been overlooked by this versatile author, who has combed the higher reaches of life as Darwin combed the lower. The War, of course, is not neglected, and this subject, by the by, is approached in a new way. The reader will get many shocks, for Morris has Bernard Shaw's trick of making you think by this method. In many places his voltage is higher than Shaw's.

Morris is one of those rare spirits who, no matter how long they live, still see the world as a fairy forest. The vision of the genius is much like that of the child—wonder wrapt. It is said that great artists never outgrow their childhood. This, in fact, is one of the distinguishing marks of true geniuses. Their intuition, like that of the child, pierces through things. If they manage to escape the blighting influence of the schools, they remain unspoiled and able to view the worth while things of life with zest and insight, a faculty which more than any other appears to arouse derision in academic circles. Morris has also revived with complete success the lost art of thinking. His thought-stuff, as Jim Huneker would call it, is good, and behind it is a man to whom life has been an absorbing and joyous adventure.

Now about this matter of colonic toxins. Morris says one may walk in a whole gallery of piantings in the dark, trying to recognize them by feeling of the frames. Yet somewhere in the gallery is a little bit of an insignificant button, which if pressed, instantly turns on the light, and the gallery is all in display in a moment. Press the little microbe button, and the whole gallery of men's famous and infamous thoughts and performances will be lighted up like a flash. Around the microbe as a keystone Morris builds up his literary arch. Thus Carlyle's "French Revolution" was the result of colonic poisoning, and so on.

We really don't believe that Morris cares a fig about the validity of his microbe doctrine. He has to lay down a stroma to hold the delicate and beautiful parenchyma of his thoughts together. The parenchyma is the esential thing; the stroma may be leather or prunella (or Cargile membrane). Morris says that anarchists are pallid because of colonic toxemia, causing constriction of facial capillaries, and leaves you to infer that they are anarchists because toxemia. Their pallor is more likely due to the ghastly conditions against which they make it their business to protest and under which they have personally suffered grievously. But it is out of improbable, not probable, concepts, that the poet or artist of any sort weaves his weird dreams. Your true artist should have no morals. We should seriously question the genuineness of an artist who confessed to a concern about validities. Moral considerations should never give pause to an artist in the throes of creative work. Such things never trouble the soul of your true artist. It is not truth, but beauty, that obsesses the mind of the artist. So Morris's doctrines are merely convenient pegs upon which he hangs charming garments of thought.

To many critics of these three books Morris would seem to be a pathologist, a horticulturist, a naturalist, or a crank, when the fact is he is simply a literary artist, making brilliant use of premises the doubtfulness or truth of which is of little moment. One must not be misled by the fact that he writes a great deal about religion and our so-called, evanescent moralities, as have so many artists who have been unwittingly mistaken for historians, moralists, philosophers and even theologians, because the artist writes about anything that enables him to create beauty. That is the artist's passion, and it has nothing to do with moralities or validities

The difference between Morris and most of our earnest, conscientious and commonplace though able doctors is just in this, that the latter sincerely attach themselves to doctrines and stromas and get no farther. *They are* pathologists and horticulturists, and naturalists and cranks.

The books are peculiarly constructed in parts. A paragraph on incised wounds of the finger may be followed by one on syndicate letter reports in the newspapers. The author has taken extraordinary liberties of this sort with orthodox standards of book making, and in wholesale fashion. But he has had exactly the same right so to do as the gynecologist who placed pictures, not on the walls of his office, but on the ceil-

(*Continued on p.* 18.)

* Microbes and Men.
A Surgeon's Philosophy.
Doctors vs. Folks. By Robert T. Morris, M. D. Garden City: Doubleday, Page & Co. 1915.

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(*Continued from p.* 104.)

ing. The gynecologist's patient in the dorsal position was thereby properly entertained. Morris's literary methods give you proper entertainment too, while he is operating on your intellect, after you get used to their novelty. They succeed brilliantly, and therefore there is nothing more to be said.

ARTHUR C. JACOBSON.

Diseases of the Skin and the Eruptive Fevers. By Jay Frank Schamberg, M. D., Professor of Dermatology and Infectious Eruptive Diseases in the Philadelphia Polyclinic. Third edition, revised. Cloth, 585 pages, 248 illustrations. $3.00 net. Philadelphia and London: W. B. Saunders Company, 1915.

The classification of the dermatoses is poor. There is no reason for including the infectious granulomata such as syphilis, tuberculosis, leprosy, blastomycosis, etc., under neoplasms.

The book has been brought up to date by a clear and concise discussion of the modern conception of anti-syphilitic therapy. However, intramuscular injections of oily suspensions of salvarsan are given more consideration than is deserving, as such treatment has been discarded to a very great extent. Noguchi's luetin reaction is fully described.

Special mention should be made of the concise descriptions of the various diseases and of the illustrations which are numerous and of excellent quality. Emphasis is laid, throughout the text, upon differential diagnosis. Treatment is considered as fully as possible in a work of this size. The descriptions of the eruptive fevers are full and well illustrated. Smallpox is considered extensively, especially the atypical and mild forms of the disease.

On the whole the book is recommended as an excellent work for student and practitioner. E. H. M.

The Starvation Treatment of Diabetes, with a Series of Graduated Diets as used at the Massachusetts General Hospital, by Lewis Webb Hill, M. D., and Rena S. Eckman, Dietitian, with an Introduction by Richard C. Cabot, M. D. Cloth, $1.00. Boston: W. M. Leonard, 1915.

This book furnishes the details of the latest treatment of diabetes mellitus, in the form of the clinical application of the work done in recent years by Dr. Allen at Harvard and The Rockefeller Institute. Dr. Cabot says "It seems already clearly proven that Dr. Allen has notably advanced our ability to combat the disease." This little monograph with its prescription of treatment, tests and diets will be of great service to practitioners.

Internal Medicine. By Clifford B. Farr, M. D., of the University of Pennsylvania. 408 pages, illustrated. $2.00 net. Philadelphia and New York: Lea & Febiger, 1915.

As a basis for a systematic training school course or as a reference volume this book has been logically planned and perfected with a discriminating grasp of the requirements and limitations of a nursing text-book. Eight divisions deal with diseases of the various systems and two with harmful agencies, physical, chemical and bacterial, invading the body from without. A useful section gives in detail the relative frequency of diseases and their relative mortality.

Speaking of Operations. By Irvin S. Cobb. New York: George H. Doran Company, 1915.

This is a humorous skit presenting some of the delightful vagaries of one of our cleverest writers. It can be read with zest by operators and operated alike.

Marie Tarnowska. By A. Vivanti Chartres. New York: The Century Co., 1915.

This is the story of a sensational murder in Venice. Prof. Bossi of the University of Genoa believes it proves that "moral obliquity in women is in most cases due to pathological causes comparatively easy of diagnosis and cure." A scientific fact is brought out in story form and the narrative holds the reader's attention throughout.

The Practice of Medicine. By James M. Anders, M.D., Professor of Medicine and Clinical Medicine, Medico-Chirurgical College. Twelfth edition. 1,336 pages, illustrated. Cloth, $5.50 net; half morocco, $7.00 net. Philadelphia and London: W. B. Saunders Company, 1915.

The new methods of treatment are carefully set forth in this revision. Colon bacillus infections, large-cell splenomegaly, tuberculosis of the thyroid gland and hypophyseal obesity are the subjects of new matter, while many of the old topics have been added to materially. The sections on pathology have also been made to conform to the findings of the day. The volume will continue as one of our standard text-books on the practice of medicine.

Handbook of Physiology. By W. D. Haliburton, M.D., of London. 924 pages, illustrated. Twelfth edition. $3.00 net. Philadelphia: P. Blakiston's Son & Co., 1915.

This is the 25th edition of our old friend, Kirk's Physiology. The last edition, which was carefully reviewed in these pages, was a thorough revision, and the present volume is brought up to date with the few additions that have been made to the world of physiology the past two years.

Gonorrhea. By Dr. P. Asch. Translated by Faxton E. Gardner, M.D., of the New York Polyclinic. 104 pages, illustrated. New York: The Rebman Company, 1915.

The author's experience is detailed in this little monograph. It is at variance with American methods, but fundamentally German, French and American procedure are similar and one can get much of value by perusing these pages. Dr. Gardner has added to the worth of the book by his own comments.

Theory and Practice of Blood-Letting. By Heinrich Stern, M.D., Visiting Physician to St. Mark's Hospital, New York. 264 pages. New York: Rebman Company, 1915.

As might be expected, the gifted author of this little book, one of America's leading internists, has thoroughly covered his subject. The renaissance of blood-letting, he believes, is due to the "better understanding of the functional changes following the operation," and he predicts a period of great usefulness for this therapeutic method. The book is divided into two parts, dealing respectively with the General Fundamentals of Blood-letting and A Special Clinic of Local and General Blood-letting. A great impetus to this time-honored procedure is certain to follow the adoption of Dr. Stern's views.

What to Eat and Why. By G. Carroll Smith, M.D., of Boston. Second edition. 377 pages. $2.50 net. Philadelphia and London: W. B. Saunders Company, 1915.

The title of this book describes it completely. It lays down succinctly the diet which should be followed in various conditions and describes why certain food products must be used in the face of certain metabolic changes. The amounts of proteids, carbohydrates and fats necessary for use in a variety of diseases are elaborately set forth. As an adjunct to treatment, the dietetic rules herein advanced are of the greatest possible use.

The Medical Clinics of Chicago. Vol. I, No. 2 and No. 3. Published bi-monthly. $8.00 per annum. Philadelphia and London: W. B. Saunders Co., 1915.

These numbers exceed in practical value their predecessor. They include eight or nine medical clinics respectively and are presented in an offhand conversational method which gives the reader the actual bedside picture. We venture to predict the widespread use of these valuable clinical aids.

Your Baby. By Edith B. Lowry, M.D. 254 pages. $1.00 Chicago: Forbes & Co., 1915.

The purpose of this little book is to assist mothers in intelligently caring for their babies. It abounds in common-sense hints and facts that, if observed, will go far to make babies stronger and mothers more cheerful.

In a French Hospital. By M. Eydoux-Demians. 170 pages. New York: Duffield & Co., 1915.

Betty Yeomans has translated these notes of a nurse in a French military hospital and they appeal strongly to the personal side. Pathos, grief, humor and tragedy find a place in these entertaining pages.

Bandaging. By A. D. Whiting, M.D., Instructor in Surgery at the University of Pennsylvania. 151 pages, illustrated. $1.25 net. Philadelphia and London: W. B. Saunders Company, 1915.

Between the illuminating text and the excellent illustrations bandaging is made easy. The author has reduced this somewhat difficult art to a science and he is to be congratulated on the manner in which he has presented his subject.

Histology. By Rudolf Krause, of the University of Berlin. 274 pages, illustrated. New York: Rebman Company, 1915.

This book appeals alike to students and physicians, as a guide to the technique of microscopy and as an authoritative explanation of histology in its relationship to anatomy. It is prepared with an eye to practicability and the object is completely achieved.

Colon Hygiene. By J. H. Kellogg, M.D., Superintendent of Battle Creek Sanitarium. 393 pages. Battle Creek: Good Health Pub. Co., 1915.

If a man would become intimately acquainted with his colon

(*Continued on p.* 20.)